ELEMENTS OF THOUGHT;

OR,

FIRST LESSONS IN THE KNOWLEDGE

OF THE

MIND:

INCLUDING FAMILIAR EXPLANATIONS OF THE TERMS EMPLOYED ON SUBJECTS RELATING TO THE INTELLECTUAL POWERS.

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Nec manus nuda, nec Intellectus sibi permissus, multùm valet:—Bacon.

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CORRECTIONS.

Page 9, line 12, *read*, they afford.
27, — 4, *from the bottom, read*, complex notions.
61, — 12, *read*, Belles Lettres.
93, — 2, *from the bottom, read*, Æneid.
144, — 11, *read*, commit injuries.
172, *last line, read*, ἱερος.

PREFACE.

The design of this volume is to impart, in a familiar form, elementary explanations and instructions on subjects connected with the intellectual faculties,—to afford gradual and easy exercises to the powers of abstraction,—and thus, tó conduct the young reader, not perhaps by the most direct, but by the most *accessible* path into that region of thought where the mind best acquires force, accuracy, and comprehension.

A writer who invites the attention of young persons to subjects which demand a continued effort of thought, is strongly tempted to win that attention by some promise of amusement; or to profess that he has the art of communicating knowledge without the cost of labour on the part of those who receive it. No such promise or profession will be offered in the present instance. The author believes that when the professed object is to give tone and vigour to the understanding by exertion, trivial digressions, and gaieties of style should be avoided.

Relaxation from efforts of attention is, perhaps, always better provided for away from books, than in them. Or if relaxation is to be sought for in books, it should be entirely disjoined from serious and invigorating studies. The writer of this little volume, therefore, does not treat his young readers as children, who must be allured by the promise of entertainment to advance in the course of mental improvement; and to whom knowledge must be administered, like a nauseous drug, concealed in a sweetmeat. On the contrary, he boldly claims their undiverted attention: he invites them to THINK; and he suggests no inducements beside the proper pleasures and advantages of intellectual cultivation. He has, indeed, endeavoured to make this introduction to the Study of the Mind as familiar and intelligible as possible; and he has presumed upon no higher qualifications in his young reader than an ordinary measure of intelligence,—a moderate proficiency in the several branches of a common education, together with a deliberate and efficient desire for the improvement of his mind.

In explanation of the form into which these elementary instructions are thrown, it may be proper to say, that the writer has been guided by the opinion that comprehensive and systematical books are little adapted to the purpose of initiation in studies of the kind to which this volume relates.

A Treatise on any branch of intellectual philosophy, if it is *complete* and *systematical*, must include many topics which no simplicity or perspicuity of style can render easily comprehensible. One portion of the book may be readily understood, while another portion, though not less lucid in its style, may baffle the efforts of the unexercised faculties; and thus, perhaps, occasion to the youthful reader final discouragement and disgust. The writer, therefore, has not aimed to compose regular elements, either of Metaphysics, or of Logic; believing that the first book which is put into the hands of a young person with the view of inviting his attention to objects purely intellectual, should be rather select than comprehensive in its topics, and rather casual and desultory in its form than rigidly logical.

The First Part of the volume is occupied with consecutive explanations of those states and operations of the mind which seem the most easily comprehended. In the Second Part, although a wider range of subjects is taken, yet, in order to avoid embarrassing the young reader in the difficulties of a full and methodical treatise, the hints which it contains have been disjoined, and arranged alphabetically. All the principal terms relating to the intellectual powers which seemed to need explanation or definition have been included in the vocabulary: after a first perusal it may serve the purpose

of occasional reference. The correlative terms are mentioned at the end of each article, in order that the explanations of connected subjects may be readily compared. A Summary at the end of the volume exhibits all the terms in their mutual dependance.

While it has been attempted to adapt the phraseology to the comprehension of intelligent and well-informed *children*, the volume is especially dedicated to the service of that numerous class of young persons who, having received only a common education, eagerly desire, as far as their engagements in active life will permit, to supply the defects consequent upon the partial and unconnected culture of the mind.

Ongar,
April, 1822.

PART I.

CHAP I.

INTRODUCTORY.

On the use of familiar comparisons and colloquial phrases in explaining the nature and operations of the Mind.

When it is said that the Sun rises in the East, and sets in the West, every one knows that this manner of speaking does not truly describe the cause of the Sun's apparent motion through the heavens: it is a mode of expression which corresponds with what we see; not with what we learn by more accurate observation and reflection.

But although this mode of speaking is not correct, yet it may serve the purposes of

common conversation better than scientific phrases would do. And we may often reason very justly when the literal sense of the words we use is wholly incorrect: as for example; when it is said that a Navigator who sails round the world, taking his course from Europe to the straits of Magellan, and from thence home by the Cape of Good Hope, will lose a day in his reckoning, because, *as the Sun travels from East to West*, every day will be a little lengthened as he proceeds.

This reasoning would not be more just, if, instead of saying that *the Sun travels from East to West*, we were to speak of the diurnal motion of the Earth in astronomical terms.

A familiar style of expression, in which things are spoken as they *appear* to be, and not exactly as they *are*, is often to be preferred to a more scientific style; because it is easily understood, and, generally, it is more concise.

This is the case, especially, when we have to speak of the powers, or operations, or notions of the mind; because, as these subjects are in themselves rather difficult to be understood, it is necessary that they should be first introduced into the mind in the most familiar manner.

In this little volume, therefore, forms of expression will often be employed, which represent the common imperfect notions that are formed concerning the operations of the mind, rather than those more accurate notions which we may adopt when we are able to think more patiently and clearly on the subject: we must at present speak of the mind in the same familiar style that we employ when we say of the Sun, that it *rises and sets;* or that it *travels through the heavens.*

As the young reader gradually becomes familiar with subjects of this kind, which require some effort of the understanding, he will be able to think of them more easily; to comprehend them more perfectly; and to speak of them more correctly.

There are three different styles, or modes of expression, in which the same idea may be conveyed.

The first is the COLLOQUIAL STYLE, or the style of common conversation.

The second is the FIGURATIVE STYLE.

The third is the PHILOSOPHICAL STYLE.

I. The COLLOQUIAL STYLE. It has already been said that in common conversation we speak

of things as they appear to us at a first glance, and not according to those more accurate notions concerning them which are acquired by careful examination and reflection. As, in the instance just mentioned, we are used to say that the Sun rises and sets, or that it travels from East to West; because it *appears* to move, while the Earth stands still; yet we know, while we employ these expressions, that the very reverse of this is true.

The piston of a pump is said to *suck* the water into the barrel: this is a colloquial expression. In truth, it is the weight of the external air which lifts, or drives the water into the vacant space left in the barrel when the piston rises.

We say vermillion is *red*, though the redness is not in the substance itself, but in that part of the light which is thrown off from a body which perfectly imbibes the yellow and blue rays.

Many instances of this sort might be mentioned, in which we speak of things as they *seem to be;* not as they *are;* and yet, though the mode of expression is incorrect, or false, what is affirmed may be perfectly true: for

example: The piston as was just before said, will raise water in a pump to the height of three and thirty feet: this is true, although it is not really the piston which raises the water, but the weight of the external air. What is meant is, that water in a pipe, where it is freed from the pressure of the atmosphere on its upper surface, will rise to the height of three and thirty feet.

In treating of subjects relating to the mind, a great number of colloquial expressions are employed, which are useful, and sufficient on common occasions, though they are very far from being strictly correct: for example:—

It is usual to describe the mind of man as consisting of several separate parts, or faculties,—as the imagination,—the understanding,—the memory,—the will,—the faculty of attention,—the power of abstraction, &c. We feel that we have several different kinds of thoughts, or states of mind; and hence it is natural to us to fancy that the mind, like the body, consists of separate parts, or members, or organs. When we have learned to think patiently and accurately we may perhaps find that these colloquial expressions are not more

correct than those which speak of the Sun's rising or travelling; or of a piston sucking up water. But in the mean time it should be remembered, that what is affirmed concerning the mind may be useful and true, so far as practical instruction is concerned, although the mode of expression is false or inaccurate. It appears then, that the colloquial style is that mode of speaking which corresponds with those inaccurate notions of things that are formed without careful examination or reflection; but that yet it is *true enough* for the ordinary purposes of conversation, or instruction.

II. The FIGURATIVE STYLE is that manner of expressing our ideas in which we compare one thing to another. If, instead of saying colloquially, the Sun rises and sets, we say the Sun *pursues his course* through the heavens;—this is a *figurative* expression; because we compare the Sun to a man who runs a race;—as David beautifully says "he rejoiceth as a strong man to run a race." A great proportion of all conversation, as well as of public speaking and writing, consists of figurative expressions.

There are three reasons for using the figurative style.

1st. Because it is often the shortest and simplest way of expressing our meaning; especially when we are describing the qualities, or feelings, or operations of the mind. If we say, such a man has *a brilliant genius;* we convey a general notion of what we mean in two words; whereas if the same notion were expressed without the aid of a comparison, perhaps fifty words must be used; and a greater effort of the mind would be needed to comprehend what was meant. The mind of the person to whom this expression is applied, is compared to a lamp, burning with a clear and sparkling flame. Such a lamp sheds an agreeable splendour upon every object around it; and it is more useful, as well as more agreeable than a dull lamp: therefore it attracts attention, while dull lamps about it are not regarded. On these accounts it may serve as a fit comparison when we wish to describe the mind of a man whose ideas follow each other rapidly; who expresses them clearly, and in a manner that gives pleasure as well as information, to those who hear him.

Common phrases, such as the following,—a tender spirit, a warm heart, a solid judgement, an enlightened understanding, a pure conscience, an elevated mind,—are all figurative expressions, in which a quality, or feeling, or operation of the mind is compared to some sensible object, for the sake of expressing in two words a notion which would require several sentences to describe it at length.

It is a useful exercise of the understanding to take such figurative phrases, and find out,—1st. What the object is which is employed as a comparison: 2nd. What the *notion* is to which this object is compared:—and 3rd. In what respects the two things resemble each other.

Many figurative expressions of this kind will be employed in the following chapters. It must, however, always be remembered, that a figurative phrase can never perfectly convey the notion which it is used to represent: therefore, after a comparison has conveyed a general, or indistinct notion to the young reader's mind, he ought to examine the *notion* more carefully while he disregards the comparison.

2nd. The figurative style is often employed because it is the only way in which we can express some very imperfect notion; or some fact which we scarcely understand at all.

For example: an idea is often said to be *deeply impressed* on the memory. This figurative expression is used because we do not know in what way a thought which has once been in the mind, is apt frequently to return, or so to remain that we can, as often as we please, bring it back: all this we do not understand; but we fancy it takes place in a way that may be compared to figures or letters being impressed upon wax, by a seal; we use this comparison therefore, because it is the only way of expressing the incomplete notion we have of memory.

3rd. The figurative style is often employed merely because comparisons give pleasure to the mind: comparisons employed for the sake of the pleasure they offered to the imagination, make up a great part of all poetry. When our object is to enquire after truth, or to teach what we know to others, we should avoid poetical comparisons; because they divert the attention; and because we are apt to fancy that we under-

stand a subject, when we are merely pleased with the beauty or aptness of a similitude.

III. The Philosophical Style.

After we have examined any object with close and patient attention; and have made ourselves as perfectly acquainted with its nature as possible; we endeavour to express all that we know concerning it, and nothing more, in the plainest and simplest words we can find. This is the Philosophical style.

To say that the Sun rises in the East, and sets in the West, is to speak colloquially.

To say that the Sun pursues his course through the heavens like a charioteer, is to speak figuratively.

To say that the apparent motion of the Sun from East to West is occasioned by the diurnal revolution of the Earth on its axis, is to speak philosophically.

Or if, instead of using the words *diurnal* and *revolution*, and *axis*, which are derived from the latin and greek languages, we were simply to say—the Earth turns round once every day like a wheel; this more familiar mode of expression would be as philosophical as the other; because it represents the fact with equal exactness.

Now, as the design of this volume is to afford easy exercises to the understanding upon subjects relating to the mind, the colloquial and figurative styles will chiefly be employed, in order to render this introduction to such subjects as familiar and comprehensible as possible. In proportion as the young reader's power of thinking is strengthened by instruction and exertion, he will be able to comprehend abstract propositions without the aid of comparisons, examples, and colloquial phrases: thus his notions will become gradually more *philosophical;* by which is merely meant that they will be more exactly *true.*

CHAP. II.

On the three chief excellencies of Human Nature.

If a person were shut up in a corner of some great machine, where there was only a glimmering of light; and if the machine were constantly in swift motion, and a hundred wheels were whirling round, while hammers and rollers and chains were making an incessant din, he would scarcely be able to gain a perfect and comprehensive knowledge of the construction and movements of the machine after many months of close attention.

But a person placed in such a situation would derive one great advantage from his peculiar circumstances,—namely, that he must acquire a habit of quick and accurate observation, and of close and patient attention: after some time, he would learn to distinguish obscure objects, and to comprehend intricate forms and move-

ments, which, to others, would appear a mass of unintelligible confusion.

Now when we endeavour to comprehend the nature and the operations of our own minds we are like the person who is shut up within the machine while it continues in motion. It will be found more difficult to understand our own minds, than to comprehend the nature of external objects, which may be seen and handled. But, for this very reason, there is a peculiar advantage belonging to studies of this sort—namely, that those who accustom themselves to reflect upon the operations of their own minds, and to study the construction and the various changes of the rational principle, acquire the habit of thinking more patiently and more accurately than those who employ their thoughts only upon sensible objects.

A principal use, therefore, of such pursuits is, that they give more exercise to the powers of the mind than any other subjects; so that even if they seemed to be in themselves of less practical importance than other studies they would still be indispensible to a complete education. The time to pay attention to them is that period of life when the under-

standing expands, and while it is most capable of improvement.

There are many persons who appear to think little; or whose manner of thinking is always inaccurate and confused although their understandings are naturally strong. The reason often is that they have never learned to direct the course of their thoughts; nor have the notions which fill their minds ever been set in order: they have not acquired the power of attending separately to single ideas, or of distinguishing clearly one from another. The greater the effort they make to think, the more confusion there seems to be among their ideas; hence it happens that they are soon discouraged, and are willing to receive all their opinions from other men; or perhaps they become positive in affirming what they are conscious that they do not understand. If such persons had early learned to think with ease and correctness they might have been less servile, or less dogmatical.

But besides this confusion of thought which discourages men from employing the natural powers of their understanding, the mind, like the body, has a constant tendency to sink into

a state of inactivity. If a man indulges habits of bodily indolence, the natural powers of the constitution are impaired; and exertion becomes every year he lives more and more irksome. This wretched condition is, however, so painful in itself, so injurious to worldly interests, and so disgraceful, that it is comparatively but a few individuals who suffer themselves to sink into it.

But the indolence of the mind is less apparent than the indolence of the body; and those who are the most subject to it may scarcely themselves be aware of their real condition. Persons may converse as they hear others converse; and do what they see others do: they may repeat what has been fixed in the memory, and believe what they have been taught, or what best pleases their particular tempers; while their minds may be as completely inactive, and as incapable of exertion, as the body is during sleep. This, we must acknowledge, to be a very degraded state for a being whose mind is, by nature, capable of much more activity than his body: but yet, it is certain, that the minds of the greater part of mankind are in this inactive state.

It is, in great measure, owing to this general and habitual indolence of the human mind, that millions of men, from one generation to another, continue to be deluded by childish and wicked superstitions.

It is owing to this mental indolence in the mass of mankind, that one man, whose mind is active, often finds it easy to persuade thousands of his fellow-men to receive some fanciful opinions of his own: or to induce them to follow him in absurd and mischievous enterprises, which must bring miseries upon themselves and their neighbours.

It is, in part, owing to the indolence of the mind, that men, who have heard that there is a future life, which will be happy or wretched according to their conduct and the state of their minds in the present life; yet make themselves tranquil while they pay no sufficient regard to the means of securing happiness in the life to come.

The indolence of the mind prevents men from feeling themselves degraded while they are seeking chiefly the gratifications of the body, or those gratifications of the mind which are more foolish and useless than the painted toys of children.

In the common affairs of life it may be observed, that men appear to be more influenced in their conduct by little motives, which they would be ashamed to confess, than by important and reasonable considerations: hence it is that the affairs of men are often turned about in a way that cannot be accounted for; because the real motives of their actions are too small to be known or noticed. This also is chiefly owing to the habitual indolence of the mind which lessens the force of reason.

Men are often pleased with false opinions, even while they secretly suspect them to be false: and they are glad to be deceived when they wish to do what they know to be foolish or wicked. But if they thought more it would not be possible for them to deceive themselves so easily.

We must not imagine, however, that if the minds of men were more active,—if they thought oftener, and if they thought more justly, they would always believe what is true, and do what is right. It is not activity of mind alone, that is necessary to our well being; for there are three things in which the true excellency of human nature consists:—

The first and chief of them is GOODNESS, or virtue; which consists in loving God supremely, and in loving others as we love ourselves.

The second is KNOWLEDGE.

The third is the habit of THINKING much, and the power of thinking justly.

Now we enter upon life without Goodness, without Knowledge, and without the active power of Thinking. These excellencies must be obtained by our own endeavours, in the use of certain means.

Goodness is the gift of God, to those who ask him for it, through our Saviour, Jesus Christ.

Knowledge is acquired by attention to what we see, hear, and read.

The power of Thinking is acquired and improved by the early cultivation and the constant exercise of the understanding.

CHAP. III.

On different States of the Mind to which the word THINKING, *is commonly applied.*

The word ***Thinking*** is commonly applied to several very different states of the mind. We must learn to distinguish them.

I. There is one state of the mind in which the thoughts, or the images of objects that have been seen, or recollections of what has been heard, or felt, follow each other, without any action of the Will, in making a choice among them, or in exercising command over them. Ideas flow on before the fancy, like straws, sticks, and leaves, floating on the surface of a rapid stream. The mind in this state may be compared to a person sitting at a window, who idly stares at the crowd which passes before him: he has no kind of influence over those who are passing and repassing, standing or moving, in the Street. This state of the mind is called

dreaming when the body sleeps; and *musing* when the body is awake: but it is also very usual for persons to say that they have been *thinking*, when their minds have been in this state.

II. There is another state of the mind in which it is entirely occupied with the objects perceived by the senses; it sees, hears, feels, tastes, smells; or it has some internal sensation; as hunger, thirst, pain. These perceptions or sensations excite emotions of desire, or fear, or satisfaction, or uneasiness, according to the nature of the objects which affect the senses, or the internal feelings. The particular state of the mind is the *effect* of some *cause* which operates upon it: as sealing wax becomes soft, when it is placed near the fire; or brittle, when exposed to cold: it takes this shape, or that shape, according to the figure which is impressed upon it.

III. There is another state of the mind in which it exercises command over its thoughts: it *chooses* what particular state it will be in. It either attends to some external object; or it disregards all external objects; though perhaps they may be making strong impression upon

the senses, while it attends to its own operations. It commands one thought to stay; or calls it back after it has passed by; it brings several ideas together, and compares them; or it separates ideas that come into the mind closely joined together. The mind in this state is not like the man who stares idly at a passing crowd; but like the General of an army, who, not only *perceives* the objects before him; but who directs, at his pleasure, all the movements that take place.

The two first are PASSIVE states of the mind.

The third is the ACTIVE state of the Mind, and it is this only which is properly called *Thinking*.

It is important to perceive perfectly the distinction between the active and the passive states of the mind; because the very wide differences which are observable in the character and condition of men greatly depend upon the degree in which their minds are, habitually, in an active or in a passive state.

Some examples will show what is meant by the words *active* and *passive*.

A thing is said to be *passive* when a change takes place in its state or in its situation from the operation of some external cause.

A cannon ball is passive, when it is thrown through the air by the combustion of gunpowder: the tower against which the ball strikes is passive, when it is overthrown by the blow: The Sea is passive, when it is tossed into billows by the wind.

A thing is said to be *active*, when it changes its own state or situation, or the state or situation of some other thing. (See the word CAUSE, Part II.)

It might be said that the gunpowder which propels the ball is active; or that the ball is active when it batters down the tower; but more strictly speaking, the ball is as passive when its progress is interrupted by the tower, as when it is thrown from the cannon: the gunpowder, also, is passive, when it is changed from a solid to a gaseous state by the action of fire.

Those things are most properly called *active*, which *begin to act of themselves*, without being influenced by any external cause. Now, the only things which begin to act of them-

selves are those which have thought; as animals, men, and other intelligent beings. All creatures, however, are passive as well as active. God alone is entirely active, because his state cannot be changed by any external cause; and he is the beginning, or first cause of all the action which takes place in the universe. He has, however, granted to animals, to men, and to other intelligent creatures some degrees of active power. Different creatures possess active power in different degrees: the lowest degree of active power is that which makes a creature able to move its own body: the highest degree of active power is that which makes a creature able to command its own thoughts, or to change the state of its mind by Will. This will appear more plainly in some examples. We begin by mentioning things which are *entirely passive.*

1. A pebble which we gather from the sea shore is not in the same state in which it always has been: that which we now see is, probably, all that remains of what, a thousand years ago, was a large rough fragment of rock: it has been worn small, round, and smooth, by con-

tinual friction against other stones, during the ebbing and flowing of the tide. This pebble, therefore, is entirely passive, because the changes it has undergone have been wholly produced by external causes.

2. If we break a flint which has been dug from a chalk pit, we perceive the appearance of its having been formed gradually; there are faint granulations or *laminæ* in it: it has shot out into irregular shapes; and it has become surrounded with a thin white crust. In this gradual formation of the flint there is some slight resemblance to the kind of action which is called *growth* in vegetables and animals. Yet it is merely a *resemblance;* for the siliceous matter has merely been deposited where space was left for it in the chalk. The flint that has gradually increased in size, is as passive as the pebble which has been gradually diminished.

3. A vegetable undergoes many great changes from the first bursting of the seed in the earth, to the time when the branches and the stem wither and decay. These changes are produced by the action of the sun, the air, the rain, the soil; along with that principle of

life, of the nature of which we know nothing. A vegetable, therefore, may be said to be passive in the changes it undergoes; yet vegetable life much more nearly *resembles* action proceeding from itself, than the growth of stones does.

4. There is one circumstance which is the occasion of most of the differences between Animals and Vegetables. It is this;—the preservation of the life of a vegetable depends entirely upon what happens to it from without: its food,—air, water, and the juices of the soil, *come to it:* if they cease to come to it, it dies.

But although the preservation of the life of an animal depends, in part, like that of the vegetable, upon what happens to it from without, it depends also upon its own movements or actions. An animal *moves to its food;* its food does not come to it. Now a being whose preservation depends upon its own movements, must be able to guide those movements not by chance, or only in certain directions, as the planets move; but according to its knowledge of things around it: such a being, therefore, must have *thought:* it must

perceive the difference between one thing and another: it must be conscious of pleasure, in receiving that which tends to preserve its life; and of pain, when any thing happens to it which tends to destroy its life: it must *desire* what will give it pleasure; and *fear* what will give it pain: it must have *power* to reach what it desires, and to shun what it fears. An animal, therefore, must have Perception, and Will, and Power; because its life depends constantly upon the agreement of its actions with the particular circumstances in which it is every moment placed.

When, therefore, we compare the meanest animal with the noblest plant or tree, we must acknowledge that the animal is of a higher order than the vegetable; because it has within itself a power to move, and a knowledge of things around it, by which to direct its movements: an animal, then, is an ACTIVE BEING.

An animal moves; and it moves from *thought:* this is what distinguishes it from a vegetable. But what is it which distinguishes inferior animals from man?

The thoughts of animals seem, (so far as we are able to judge,) to be entirely caused,

or influenced, either by the objects which they perceive through the senses ; or by their internal sensations, such as hunger, thirst, fatigue, &c. They do indeed act according to thought, or knowledge ; but their thoughts are constantly the effects of what they perceive or feel. It is only perhaps, in some small degree, if at all, that animals choose what they will think. Animals command their *bodies* as they will, but Man commands his *mind*, as he wills.

5. This is what is meant when it is said that Man is endowed with reason ; he has power over his thoughts. He can suffer them to flow on without direction ; or he can leave them to be influenced by external objects ; or he can withdraw his mind entirely from the objects which he sees, hears, feels, tastes, smells : he can attend to one object, and put away others ; he can bring together thoughts that are similar ; he can look at them together, and perceive wherein they are alike, and wherein they differ : he can frame complete notions, or disjoin them ; and he can *imagine* what he has never actually seen. This power over his thoughts enables man to improve his condition to

a great extent; because he can combine ideas in various forms; and he can learn how to produce what he has imagined. Animals, left to themselves, continue always in the same state: But when men once begin to *think*, they soon improve their condition.

Man, therefore, is a more active being than other animals; because the changes which take place in his thoughts, often *begin from himself*, without the operation of any external cause, or any internal bodily feeling.

When we say that man is an active being, we mean, that he is by nature capable of becoming active; for in fact, the minds of a great proportion of mankind continue always in a more passive state than those of Dogs, Monkeys, or Elephants.

Now, this vast difference between one man and another, is, perhaps, the most remarkable circumstance belonging to human nature: it deserves therefore, to be particularly attended to, in order that we may be excited to acquire that Active Power in the mind which, next to Goodness, is the chief excellency of human nature.

We must now mention again the three states

of the mind, described at the beginning of this chapter.—

The first is the state of musing or dreaming.

The second is that in which the thoughts are caused by external objects, or by internal bodily sensations.

The third is that in which the mind is itself the cause of its own thoughts.

The first two states are *passive;* the third is *active.*

The minds of persons whose bodies are indolent, feeble, or diseased, are most liable to be in the first state.

The minds of children, of uneducated persons, of savages, of persons whose sensations are peculiarly lively, or whose bodies are more vigorous than their minds, are most liable to be in the second state.

The third is the state—1st. of those whose understandings have been early cultivated, and constantly exercised: 2d. of those who have been placed in peculiar circumstances, which have forced them to think; and, 3d. of persons whose minds are naturally vigorous.

Now the object of the following chapters is to describe two or three of the simplest opera-

tions of the Mind, when it is in the active state; that is to say, when it *thinks*.

It will, however, first, be necessary to describe some things which take place in the Mind with little, or no effort of thought.

CHAP IV.

On the formation of General Notions, and the use of General Words.

After a number of objects nearly alike in their general appearance have been seen, a notion is formed in the mind which is different from the recollection we may have of any one of those particular objects. This sort of notion is less distinct and perfect than the recollection of one particular object; but it passes in and out of the mind more readily and quickly than such a particular recollection.

An indistinct remembrance formed by several similar objects, is called a GENERAL NOTION.

When a General notion has thus been formed in the mind, we employ some one word to signify the notion; which word serves as the name of every particular object that is found to agree with the notion. A word which belongs to a General notion, and which serves as the

name of many similar things, is called a General, or Common Term.

The words *Man*, *Horse*, *Star*, *Book*, are General terms: They signify the General notions which have been formed in the mind by seeing many men, many horses, many stars, many books.

When we have been long used to apply some General name to a number of similar things, we are apt to think of them as if they were really connected together in some way; though the only real connection between them is that which has taken place in our own minds.

Another circumstance follows from the use of General terms; and as it is the occasion of many mistakes in thinking and speaking, it is necessary to be aware of it.

It is this,—That we gradually fall into the habit of using General names without having in the mind any image of the particular things to which the name belongs; or even any General notion of them. It is thus that we learn to think of *words* more than of the *things* of which they are the names; and unless an effort is made to counteract this habit the mind becomes almost incapable of thinking without using words; or

of thinking of *things* at all. Children think more of things than of words; but most adults think more of words than of things.

When we hear or repeat such sentences as the following, the words commonly pass through the mind without raising any image of the things spoken of:—

'Man is born to labour.'

'The Dog is an animal which renders important services to man.'

'A man who possesses lands, houses, furniture, and cattle, is rich; but perhaps not happy.'

'I met a man yesterday who begged alms of me.'

We do not stay to think of the objects, unless there is something unusual belonging to them which rouses attention; as for instance;—

'The crocodile haunts the banks of the Nile.'

'I once saw an Eagle carry off a lamb from the flock.'

'A great comet appeared in the year 1769.'

Thus it happens that in proportion as objects are familiar to us, we forget them, when we use the words which represent them, and hence the

mind acquires the habit of carrying on its operations by the means of words without regard to things.

Those therefore who do not make frequent efforts to think of *things* when they use *words*, must think inaccurately though they may speak with propriety; because their thoughts and opinions are liable to all the indistinctness and uncertainty which belong to words. For the sense of words depends upon the use which men happen to make of them: it is therefore continually changing by time and accident. The same word is often understood by different persons in very different senses; and many words have several senses. Disputes often arise entirely from this cause;—men have forgotten to think of *things*, and as words are uncertain there will always be room for disagreement and misapprehension in the use of them.

It is true that we may very safely use the General terms which belong to the various natural objects around us; because there is little danger of mistake in regard to things which are frequently before our eyes, and which are easily examined. Besides;—the various kinds of animals and vegetables, and other

natural objects, continue always nearly the same. We may therefore safely use such words *oak*, *lion*, *star*, *cloud*, *stone*, *fish*, *copper*, *snow* ; without stopping to recollect the image of the things themselves.

But when we are speaking of things which cannot be perceived by the senses ; such as the qualities, or feelings, or abstract notions of the mind, we are liable to perpetual mistakes, if we have fallen into the habit of using words with little regard to the things they signify.

Abstract terms especially, such as the following, are very apt to slip through the mind without bringing any distinct notion along with them :—*Reason*, *Instinct*, *Wisdom*, *Genius*, *Justice*, *Partiality*, *Pride*, *Liberty*, *Power*, *Truth*, *Virtue*, *Religion*. But those who wish to acquire the power and the habit of thinking well, must not allow themselves indolently to *fancy* that they know what they mean when they use words of this sort ; or imagine that they could, *if it were necessary*, describe their meaning. They must, on the contrary, often think of such notions *apart from words* ; and they must learn to analyse them, in the way that will be explained in a following chapter.

They must labour to make them more and more correct and distinct, by continually comparing them with whatever they learn from books, from the study of their own minds, or from observation.

The sum of what has been said in this chapter is this ;—

The mind does not remember *separately* all the individual things which it has ever perceived ; but it retains one general and indistinct recollection of many similar things ; and to each general notion of this sort, one word is applied, which serves as the name of each of those similar things.

Now, as it is more easy to think of one thing, than of many, we are apt to think more of the *one name* of a general notion, than of the things themselves ; especially in things which relate to the mind, and which require some effort of thought to conceive of them distinctly.

It is unavoidable that this habit should be formed ; but it is the business of a good education to form a contrary habit,—namely,—that of comparing General notions with the things which they ought to represent ; and of examining things without regard to the words that have been connected with them in the mind.

CHAP. V.

On the meaning of the words GENUS, SPECIES, *and* GENERALIZATION.

It has been shewn that one General notion is formed of many particular objects; and that one name is employed to signify all the objects which are sufficiently alike to be comprehended in the same general notion. But very often the particular objects to which one name is given, are found to differ in many respects, when more attentively compared with each other. For example :—

The word *tree* belongs to a general notion which we have formed of a thing growing from the ground, with root, stem, branches, and leaves. Whenever we see a thing growing from the ground, and having a stem, branches, and leaves, we call it *a Tree*; although it may differ from other trees in all respects, except these which have been mentioned.

When we perceive some object very different from any thing which we have hitherto seen, the first act of the mind is to think what it is most like; and if we can see, or fancy any resemblance to some thing already known, we immediately apply the name of it to the strange object.

If a child is shown foreign animals, without having been told their names, he will probably call the Lion, *a great Dog;* the Tiger, *a great Cat;* the Elephant, *a Cow with a long nose;* an Ostrich he may call *a Swan;* and a Crocodile, *a Lizard:* his mind is uneasy till he has placed the new objects along with some of the general notions he has already acquired, and given to them the names of these notions.

The same thing has often been observed in Savages, when first visited by Europeans: a Ship they call *a house upon the water;* or *a great canoe:* and each utensil, or article of furniture, they quickly compare with something already known to them. In such instances two appellations are usually employed: the first of them expresses the *resemblance* of the new object to something known: the second, expresses the *difference* which is per-

ceived between the strange and the familiar object: as in the instance just mentioned, a child will, probably, call an Elephant, a Cow,—with a long nose.

Thus it appears that the first act of the mind is to observe the *resemblance* of one thing to others: this is the origin of General notions comprehending many similar things.

The second act of the mind is to take notice of the *difference* between similar things.

We discover that the similar objects of which we have formed one General notion are unlike in many respects. We begin then to sort the whole into smaller parcels, by observing, first, the resemblances, and then the differences, which are found among them.

Now a multitude of things which we have observed to be similar in some respects, is called a Genus; and the smaller parcels into which we afterwards divide the whole, are called Species:

For Example:—*

* It may be necessary here to remark, that, in this and other instances, the writer has not drawn his examples from scientific classifications; believing that more obvious and familiar distinctions are much better adapted to the immediate purposes of logical elucidation.

We form a General notion of things which have life, which grow, and die; which move from place to place; and which preserve their lives by their own efforts. The word *Animal* is the name affixed in the mind to this General notion; and all the particular things to which the above description may be applied are said to belong to the Genus,—*Animal.* Having this notion, and the name of it,—*animal,* in the mind, if we were transported to the moon, and were there to see objects entirely different from any thing found upon the Earth, except that they moved about, apparently according to their own will, we should immediately call them animals; although unlike any creatures to which we had hitherto given that name; we should also call them *all* by this one name,—*animal;* although we perceived them to differ widely from each other.

So, in fact, we call all things animals which agree with the general notion that has been described. We perceive, however, that there are parcels of them which differ in some respects from other parcels. Some animals, for instance, move upon the Earth; others live in the water; others traverse the air. We

therefore divide the multitude of animals into three *Species*;—Beasts, Birds, and Fishes. Now these three words are the names of General notions; but they are all comprehended in the larger notion signified by the name Animal. *Animal*, then, is the Genus; *Beast*,—*Bird*,—*Fish*,—are the Species.

When a Genus has been thus divided into Species, any one of these species may be taken and divided into smaller parcels, by observing some further circumstances in which the things included in it differ.

The parcel which was called a *species*, in relation to the large collection, or *Genus*, is now itself considered as a Genus, in relation to the smaller parcels, or species, into which it is divided:—For example:—

Birds are a species of animal: but we perceive that some birds prey upon other animals; while some subsist upon grain. Birds, therefore, may be divided into two species,—*Carnivorous*, and *Granivorous*. These two species may be again divided into smaller parcels, according to still smaller differences observable in their size, or shape, or colour, or mode of life: we may go on dividing and dividing, till we

can no longer discover any certain and constant differences by which to distinguish one bird from another. After this, if we have occasion to speak of some one bird, we either point to it, and say, that Peacock, or this Linnet; or we give to it a name which belongs to itself alone; as is done to some domestic animals.

It is plain then, that the notice we take of the resemblances of things gives us General notions, and that our observation of the differences of things leads us to separate the multitude of things comprehended in a General notion into smaller parcels,—the large collection called a Genus, the smaller, Species.

When we wish to make some particular thing known, so that what we intend cannot be mistaken, we first mention the Genus in which it is comprehended, and then, we either simply name the particular Species to which it belongs, or, if that is not sufficient, we describe exactly the particular circumstance in which it differs from the other things contained in the same Genus;—this is called a Definition. A Definition is made by naming the Genus, and describing the difference between it and the other species:—For example:—

A Whale is a fish, which suckles its young.

A Bat is a quadruped, which flies through the air.

A snake is a reptile, having no feet.

Platina is a metal, heavier than any other.

(See the word DEFINITION, Part II.)

The word *Generalization*, is used sometimes, to express the act of the mind while it is employed in the way that has now been described, in distributing a multitude of things into Genera* and species.

Sometimes it is employed to signify the act of the mind in taking notice of some one object, in order to discover what genus, and what species it belongs to.

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* *Genera* is the plural of the latin word *Genus*.

CHAP. VI.

On the origin and nature of Abstract Notions.

If several marbles are before us, we merely observe their perfect resemblance to each other. But if we see together a marble, a bullet, a ball, a glass bubble, and an apple, we are led to take notice of their similarity in *one respect*, namely,—shape; and at the same time to observe their unlikeness in all other respects. We think of them as different things alike in shape. The mind forms a distinct and separate notion of this *likeness in shape;* and then seeks for a word to represent the notion. The word *roundness* is used. This is not the name of any one sort of thing, like the word *marble;* but it is the name of a notion that has been formed after we have taken notice of some one respect in which different objects are alike.

With the help of the name which we have given to this separate notion, we can con-

veniently think and speak of a particular shape, while we entirely forget the other qualities or appearances of the various objects to which it may belong.

This act of the mind, when it thinks of some one quality or circumstance apart from all the other qualities or appearances of the things in which that quality is found, is called ABSTRACTION.

Another example may be taken :—

There are before us a square piece of ivory, and an egg, and a sheet of paper, and a piece of ermine, and a quantity of snow. These things are very unlike in all respects but one, namely, *colour*. This resemblance attracts attention : we think of it apart from the shape, hardness, smoothness, size, or use of the several objects ; and we call this resemblance *whiteness*. Whenever we hear the word we have a notion of this one quality, without any recollection of particular objects which are white. Such a notion is called an *Abstract Notion*, or idea ; and the name of it is called an *Abstract Term*.

If all the qualities of all the things which we perceive by the senses were exactly the same,

it is probable that we should never form any such abstract notions; but should constantly think of all the qualities and appearances of things together; and should perhaps be unable to separate them in thought one from another.

The difference between General notions and Abstract notions will now be plain.

Objects alike in many, or in most respects, cause the mind to form General notions, comprehending a multitude of particular *things*.

Dissimilar things, alike in some one respect, cause the mind to form Abstract notions of single *qualities*.

Man, animal, oak, gold; are the names of General notions.

Redness, swiftness, hardness, beauty; are the names of single qualities considered abstractedly, or apart from the objects in which they are found.

A general term represents the *whole* of our notion of a thing, as *hawk, tree.*

An abstract term expresses only *one part* of our notion of a thing; as *voraciousness, durability.*

CHAP. VII.

On different kinds of Abstract Notions.

It has been shown in the last chapter that an abstract idea is the separate notion we form of some single quality, property, or circumstance, which has been observed in several dissimilar things.

Snow and paper agree in *whiteness:* Iron and Stone resemble each other in *hardness:* Gold and Copper agree in *ductility,* and *malleability;* which means that the shape of a mass of either of those metals may be changed by force, without breaking it into parts. A mass of Water or of oil is much more easily put into a new shape: this quality is called *fluidity.* After we have observed this quality in several things, we can think of *fluidity* without having in the mind any image of water, or of air, or of oil, or of melted metal. When we see a strange substance, if we find that some

force is required to put a mass of it into a new shape; but that yet it is not broken by the application of force, we remember the abstract notion we have before formed of *ductility*, and we say that this new substance is *ductile*. Or if a substance moves into the shape of the vessel which contains it, merely by its own weight, we are reminded of the notion which we have called *fluidity*.

The simplest sort of abstract notions are those which we form of the qualities of objects known to us by the senses; such as colour, hardness, shape, roughness, smoothness, loudness, sweetness, bitterness, &c. There are other abstract notions which are formed by reflection, and by the joining of several simple notions together. For example:—The word *virtue* represents an abstract notion, formed by the joining together of several ideas in the mind. When an intelligent being freely conforms his actions and his thoughts to the will of God, he is said to be *virtuous*, or to act virtuously. The abstract term *virtue* represents the notion we form, not of some particular action or feeling; but of that quality of any action or feeling performed or felt by an

intelligent being which renders it agreeable to the will of God. Virtue is not a *thing* that can be seen, heard, or felt; but it is *a quality of actions or feelings;* in the same way that *fluidity* is a quality of water, or of oil, or of any other substance which falls into a level surface merely by its own weight.

Whenever we perceive that there is some property, or quality, or circumstance in *dissimilar things*, which, when we see or think of one of them, may put us in mind of the other, we may be sure an abstract notion has been formed in the mind; although, perhaps, we may not be able to describe it in words. When we are searching for such a notion, or trying to express it in words, we are making an effort of abstraction; that is,—we are endeavouring to form in our minds a description of a particular circumstance belonging to several different things which shall suit *all* of them with exactly equal propriety. A person who is able to form such descriptions with readiness and correctness, is said to have a talent for abstraction; or to be an abstract thinker. An example will show how such descriptions are formed.—When we think of a

watch, a plant, and an animal, do we not perceive that there is some circumstance in which they are alike?

Let us then inquire what it is in which a plant, an animal, and a watch agree. We may take any one of these three things, and endeavour to form such a description of it, as shall suit the other two with equal correctness. Let us then take the last of them, and describe it thus,—A watch is a machine, so constructed as to measure time by the regulation of a pendulum. This, however, is a description of the watch which will suit neither the plant nor the animal. We take, then, the plant. A plant is a thing which grows from the ground; gradually increases in size, lasts a certain time, and then decays: this description will suit neither the watch nor the animal. Let us try then to describe the animal. An Animal is a being which grows, and which moves by its own will; and which, after it has for some time preserved its state, decays, or is destroyed. But this description of an animal will not suit the plant or the watch. We have not, therefore, yet described that abstract notion which may cause us to think of these three things together, as having some resemblance.

Let us then describe a watch thus;—It is a body, consisting of various parts, so related to each other, as to produce certain constant movements and changes, with a view to some end or design. Now any thing to which this description may be applied is called an *organized body;* and the name of this abstract notion, formed in the mind by comparing such bodies is **organization.* Organization is that in which a plant, and an animal, and a watch agree; for we may say of one of them with as much propriety as of another, that it is a body, consisting of various parts, so adjusted as to produce certain changes and movements, all having a tendency to some one end or design.

There is, however, another abstract notion in which the plant and the animal agree; but which does not belong to the watch.

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* The term *organization* is frequently restricted to vegetable and animal bodies; but as, in its logical sense, it is susceptible of a wider application, the mechanical structure is here included for the sake of a more diversified exemplification.

This is *Life:* we cannot tell in what life consists, but we see that it is something more than man is able to communicate to any machine. We can only describe it by the effects which we observe: these effects are, a constant movement among the parts of the body; a gradual increase in size, for a certain time; and a regular succession of changes ending in the dissolution of the whole This principle of Life might be *compared* to the action of the spring of a watch: but it would be a foolish misapplication of words to call the spring, the *life* of a watch; as though the elasticity of the spring, and the principle of life in a plant or animal, were nearly the same things.

Life is something which we do not understand; but the effects of life which we observe are joined together by the mind, and form an abstract notion: and whenever we see these effects we remember the notion, and the name of it; and we say such a thing has Life;—either vegetable life, or animal life.

It appears then, that the mind not only forms abstract notions of simple qualities, such as *redness*, *sweetness*, *roughness*, but

also, that it has abstract notions in which a number of circumstances or qualities are joined together; such as those signified by the words, *ductility, fluidity, virtue, organization.*

CHAP. VIII.

On the difference between Simple Abstract Notions, and Complex Abstract Notions.

The notions expressed by the words ***Life***, ***Organization***, ***Virtue***, may be described, as was shown in the last chapter. But some abstract notions cannot be described by words: we can only give them single names. It is necessary to understand the difference between these two kinds of abstract notions.

The notions signified by the words ***Redness***, ***Sweetness***, ***Existence***, ***Pain***, ***Pleasure***, and many others, cannot be described: the reason of this is, that these notions consist of *one idea* received immediately, either from external objects, by the senses; or from our internal feelings, or consciousness.

If it is necessary to make another person know more certainly what notion we are

speaking of, we may employ *some other word*, nearly of the same meaning ; but we cannot convey to his mind by words any more of this notion than what he receives *at once*, as soon as he hears and understands the word we use.

For example :—if the person to whom we speak does not happen to be acquainted with the meaning of the word ***Existence***, we may use the synonymous word ***Being*** ; or we may vary the form of expression, by saying,— Whatever *is*, *exists* ; or has *existence* : but these several words or phrases are not *descriptions* of the notion ; they are merely different names of it.

When no perfectly synonymous word can be found by which to express one of these simple notions, we may mention some object to which it belongs ; or some cause which produces it : Thus we may say *redness* is the colour of a rose : ***Pain*** is the state of the mind while the nerves are violently pressed, or torn, or cut. But this does not *describe* pain ; it only makes known what feeling it is to which we apply the word.

Notions of this sort, which cannot be described may be called SIMPLE ABSTRACTIONS.

Notions which may be described, because, they consist of several simple notions joined together, may be called COMPLEX ABSTRACTIONS.

If we attentively examine the notions suggested by the words Place, Distance, Equality, Proportion, Hardness, Softness, Fluidity, Intelligence, Virtue, Perfection, Design; Utility, Organization, Truth, Liberty, Necessity, Responsibility, Obligation, Equity, Reward, Punishment, Merit,* we shall find, that they may be *described.* That is to say, we may mention the several simple notions which are included in them, and explain the manner in which they are connected together: some examples of what is meant have already been given in the last Chapter, where the notions expressed by the words *Fluidity, Ductility, Organization, Virtue,* are described, or analysed.

It is now necessary to explain the meaning of the word—*Analysis.*

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* Some of these notions are often called *Relative Notions;* Because they are formed by perceiving the Relation which one idea bears to another.

CHAP. IX.

On Analysis, Classification, and Arrangement.

To open a parcel, and to examine each article it contains separately, is ANALYSIS.

The word ***Analysis*** is often misunderstood, or used as if synonymous with ***Classification***, or ***Arrangement***, or ***Distribution***, or ***Division:*** persons who have a happy talent for *arranging* their thoughts in a neat and perspicuous manner, are apt to imagine that they have *analysed* a subject, when, in fact, they have done nothing more than put their original stock of ideas into some convenient and intelligible order.

The difference between Analysis, Classification, and Arrangement, may be shewn by the following example :—

A person who receives a parcel, containing a multitude of various articles, *analyses* it in order to know what each article is.

A tradesman who has to make up a parcel, which is to consist of various articles, if he is accustomed to method in the dispatch of business, does not pass round his Warehouse and take by chance the articles which are contained in his customer's order; but he first makes some kind of *classification* of them in his mind; and then he proceeds to look out all the articles of a similar kind;—then those of another kind; &c.

The person whose business it is to pack such a parcel, does not huddle them together at random; but he makes an *arrangement* of them in the way which he thinks best for the compactness of the parcel, and the safety of the commodities. He classifies them, indeed, but not according to the *real nature* of the several articles; it is merely with a view to his present object; which is to dispose them so that they may occupy the smallest possible space, with the least hazard of injury to any of the goods. Now if we attend to this example we shall perceive, that,—

1. An analysis is made by observing the differences of things; in order that, by separating things that differ, we may become perfectly acquainted with each; and so with the whole.

2. A classification is made by regarding the resemblances of things; in order that, by bringing together things that are alike, we may have a few kinds of things to think of, and remember, instead of a confused multitude of things.

3. An arrangement is made by remarking particular circumstances which make it *fit* that one thing should be placed along with another; and that other things should be kept apart.

1. We analyse in order to become acquainted with things of which *hitherto we have been ignorant.*

2. We classify in order to have a just and comprehensive view of a multitude of ideas *already acquired.*

3. We arrange in order to adapt a multitude of things to some particular purpose.

1. An analysis, therefore, must be *perfect.*

2. A classification ought to be *natural,* and *perspicuous.*

3. An arrangement ought to be *simple,* and *fit.*

1. There can be but one *true* analysis of any one collection of things.

2. There is always one classification which is *best;* and that is the one which corresponds with a true analysis; but there may be several classifications that are good.

3. Several arrangements may be equally good; because the fitness of an arrangement is often accidental and arbitrary.

1. It may be observed that Persons who have the power of accurate discrimination among abstract notions, habits of patient thought, and, perhaps, a defective memory in regard to words, succeed best in analysis.

2. That Persons who excel in the powers of observation, and who are more occupied with General notions than with Abstract notions, frame the best classifications.

3. That the best arrangements are formed by persons whose apprehensions are the most rapid and distinct.

There can be but one *true* analysis of any one collection of things; because, in an analysis, we are not at liberty to divide things according to our pleasure, or according to the notions we may have formed of them beforehand; but our business is simply, to learn by careful examination, *how many dif-*

ferent things there are in the collection which we analyse.

Suppose, for example, we designed to analyse some book, in order to form an index in which every paragraph should be referred to under a general head, according to the subject of which it treats: we might begin by taking half a dozen sheets of paper,—writing, as a title, upon the first,—***Religion;*** upon the second, ***Morals;*** upon the third, ***Politics;*** upon the fourth, ***Natural Philosophy;*** upon the fifth, ***Belles Letters;*** and upon the sixth, ***Miscellanies.*** We might then proceed to read the book, and at the close of each paragraph consider on which of these six sheets we ought to put down the reference to it. There would be many paragraphs concerning which we should have no doubt under what head to place them; but there would, probably, be some that could not with propriety be placed on any one of the first five sheets; we should therefore put the reference to such paragraphs among the miscellanies: now the sheet of miscellanies, would, probably, be sooner filled than any one of the others; but it would be a sheet full of confusion,—a mere heap of particulars, which had not been analysed at all.

The proper method of performing the task would be to have before us several sheets of blank paper; we then read the first paragraph,—consider what is the subject to which it relates,—suppose, *Politics:* we make this word the title to one of the sheets, and put down the first reference upon it: in this way we proceed,—considering the subject of each paragraph *separately;* and taking a fresh sheet of paper for *every different* subject, how many soever there may be; probably we shall find that, instead of arranging the index under six heads, we must make twenty, or perhaps fifty.

In making an analysis there are two opposite errors, often fallen into, both which proceed from the want of patient and accurate examination.

The first error is indolently to imagine that a multitude of things may be reduced to *a very few* different kinds. Thus, it was formerly supposed that there were but *four* Elements, or different kinds of matter of which all things are composed;—namely,—Fire, Air, Earth, and Water. Since men of science have analysed matter with greater care, they have found

that these are not Elements, but that there is a considerable number of simple substances.

The second error happens when a number of things are supposed to be of different kinds, which more examination would show to be only different in appearance. Thus, for example, some modern chemists have said that there are more than twenty elements, or simple sub stances. Perhaps further examination will prove that several of these are the same substance under a different form.

We are liable to both these mistakes in analysing the notions or feelings of the mind; and a great proportion of all false reasoning springs from one or the other of them. The manner in which complex abstract notions may be analysed remains now to be explained.

CHAP. X.

On the Analysis of Complex Abstract Notions.

In Chapters VII. and VIII. the nature of abstract notions, and the difference between simple abstractions and complex abstractions were explained.

Complex abstractions, it was said, are notions which consist of several simple abstractions joined together in the mind, or perceived to have some relation to each other.

The notion of Liberty, for example, is a complex abstraction; because it is formed by perceiving the connection or relation of several simple notions, as,—

1. The notion of Will or choice.
2. The notion of action according to Will.
3. The notion of some external force, opposing this will, or action.

And, 4th. these simple notions related to each other *negatively*, by the recollection that such force is absent from Will or action.

It is plain then that the notion of Liberty is a complex abstraction; because we can mention the several notions which belong to it, and the relation in which they stand to each other. We can describe what we mean by the word without being obliged to find some other name for it:—Liberty, we may say, is the absence of external force or constraint, upon action or choice.

But in order to describe this notion, we must first analyse it, or discover all the simple ideas of which it consists, and the manner of their being joined together. Now, in the cultivation of the understanding, nothing is more important than to acquire the habit of *analysing* all *complex abstract notions.*

It is this habit which is the chief distinction of an accurate, profound, and cultivated mind. A person who has not acquired this habit, when he is asked what he means when he uses a word which signifies a complex abstract notion, immediately hunts for some nearly synonymous term; or if he cannot find one, he mentions some instance in which the word would commonly be employed. If, for example, he is asked,—'what is Liberty?' he replies, per-

haps,—'Liberty is freedom :' or he might say, 'a man who is not in prison, has liberty'. Thus, because he is not able to analyse the notion expressed by this word, he is obliged to make the same sort of reply which he must have made if the question had related to some simple abstraction ;—he merely finds *another name* for the notion ; or he mentions where it is to be found.

If we are asked what is *redness*, we can only say, it is crimson, or scarlet; or it is the colour of a rose, or of blood. But if the question relates to a complex abstraction, such as those mentioned page 56 we ought to analyse it, and then enumerate all the simple ideas of which it consists, and say how they are connected or related, so as to form one notion.

If we attend to the way in which different men speak or write on philosophical, moral, or religious subjects, we shall perceive that there are three sorts of minds.

The first class is the largest, by far, of the three ; it consists of those persons who, either have not naturally the power, or who have not acquired the habit of analysing complex

notions. Such persons content themselves with using customary words, to which they attach confused, imperfect, or false notions. The acting of their minds in thinking is the mere recollection of words, phrases, and sentences, which they put together in various forms.

The second class is much smaller than the first, but, perhaps, larger than the third. It consists of persons who, having more vivacity than clearness or strength of mind, are perpetually endeavouring to analyse *simple abstract notions*, such as those expressed by the words *space, existence, thought, matter, pain, pleasure, power, will, &c.* This happens because they do not perceive the difference between what is simple and what is complex: they imagine, therefore, that every thing is complex, and that all notions may be analysed. Such persons are best pleased with subjects which are most obscure: and they commonly seem unwilling to assent to any simple and perspicuous proposition: they amuse themselves with useless, endless, and unintelligible disputes. They frequently invent new names for common ideas; and often fancy that they

have made wonderful discoveries, which, however, nobody can understand: and sometimes they write books to prove, either, what really has no meaning at all, or what no one denies.

The third Class consists of those who not only possess that activity of mind which incites them to think much, but also, that strength and accuracy of mind which enables them to perceive clearly what notions are simple, and what complex: they therefore, neither waste their time in trying to analyse notions that are simple; nor rest satisfied till they have perfectly analysed every notion that is complex.

CHAP. XI.

On Efforts of Abstraction of different kinds.

It is commonly called an effort of abstraction by which the mind forcibly withdraws itself from the sensations occasioned by external objects; while it attends to its own thoughts.

It is also called an effort of abstraction when we attend to the objects perceived by one of the senses, while we cease to regard the objects perceived by the other senses: we may, for instance, so attend to what is before the eyes that we are scarcely conscious of sounds striking the ear at the same time.

It is also by an effort of abstraction that the mind attends to *one part* of its sensations in the same organ, while it disregards the other parts. For example:—a Painter acquires the habit of attending *separately* to the different sorts of sensations which are produced upon the retina at the same moment. He can at-

tend to the nice differences of colours,—their agreements and disagreements, without any regard to shadow, or to shape: or he perceives the varieties of shade, without regard to colour, or shape: or he measures the relations of shape, without regard to colour, or shade. It is upon the perfection of this power of abstraction in the organ of sight that the talent of the Painter greatly depends.

In like manner, the musician acquires the power of attending separately to any one of a multitude of sounds, which strike the ear at the same moment: he can listen to one part of the music,—the bass, the tenor, the treble; or to one particular instrument, or voice, among a hundred.

The confectioner distinguishes by taste or smell the various ingredients which he has compounded; and he can judge of the quality of some one ingredient although it is mingled upon the palate with five or six other ingredients. A good cook, or a great epicure, is able, when he tastes a made-dish, to discover all the ingredients of which it is composed: of one ingredient he may think there is not enough; of another too much: another in-

gredient, he perceives, was not prepared with sufficient care; of some other ingredient he will tell, whether it was produced in the West Indies or in China: now all these differences he perceives while *one mixed taste* is upon the palate. But, by an effort of abstraction, he attends to the various flavours *separately* and when he has attended thus to each, he has analysed the Dish.

A good Painter, then, is able readily and certainly to analyse the complex sensations of sight.

A good Musician can do the same with regard to the complex sensations of hearing, and a good cook analyses the complex sensations of taste.

Now a good thinker is one who is able readily and certainly to analyse the complex abstract notions of the mind.

All opinions on subjects connected with Morals, Religion, Politics, or the Philosophy of Human Nature, consist of complex abstract notions, variously combined, and variously expressed in words. Opinions are formed by that operation of the mind which is called *Reasoning*. But before the mind is com-

petent to Reason justly, it must have acquired habits of Abstraction and Analysis. Opinions which enter the mind in any other way are *adopted*, not *formed;* and they are little more than certain forms of expression, joined with feelings of complacency towards those who hold the same opinions, and of contempt or malevolence towards those who think, or rather, who speak differently.

There is, however, one important exception to this general observation, very necessary to be remembered. This exception relates to those *religious opinions* which are indispensible to a holy state of mind—or, in other words to *true* virtue. Now these indispensible opinions, relative to the character of God—the moral condition of man, and the way in which he may be restored to virtue and happiness, are communicated to all who humbly and diligently seek for the guidance of God's Holy Spirit, in the perusal of his word, and the use of other means of instruction. This inestimable and necessary benefit is expressly promised, in many parts of the Scriptures, to all who ask for it: and it is continually bestowed upon the most ignorant and uncultivated

minds. Indeed, while such persons, being 'taught of God,' receive the great principles of Christianity, those who proudly trust to the unaided powers of their understandings often reject or overlook the plainest doctrines of Scripture, and frame religious systems of their own, even though they profess to believe that the Bible is a Divine Revelation.

It is not proposed in this volume to do more than explain the nature of those *preparatory operations* of the mind from which may result intelligent opinions, a sound judgement in conducting the common affairs of life, or a successful prosecution of philosophical inquiries. Some brief hints, however, relating to the practical employment of the Intellectual Powers will be found in the following Part, under the words—***Analogy, Argument, Belief, Contingency, Demonstration, Doubt, Experiment, Hypothesis, Induction, Inference, Necessity, Probability, Reasoning, Suggestion, Testimony, Truth.***

END OF PART I.

PART II.

CONTAINING, IN ALPHABETICAL ORDER, BRIEF AND FAMILIAR EXPLANATIONS OF THE PRINCIPAL TERMS EMPLOYED ON SUBJECTS RELATING TO THE NATURE AND OPERATIONS OF THE INTELLECTUAL POWERS.

PART II.

&c.

ABSTRACT,—ABSTRACTION: from *abstraho*, to draw apart; or to separate one thing from another.

Abstraction is the action of the mind in thinking of some one quality or circumstance belonging to several different things, while it pays no regard to the things themselves, or their other qualities: thus we think of *length*, without thinking of a road, or a wall, or a rope; we can think of *weight*, apart from the idea of gold, or lead, or stone; we may think of *innocence*, without recollecting any particular person, or thinking of any particular actions or course of conduct.

Abstract terms are the names of qualities belonging to things which may, perhaps, be unlike each other in all respects, except this one quality: as a plum and a planet are unlike in all respects, except *roundness:* but *General terms* are the names of many individuals, alike in many, or in all their qualities and appearances: for example:—*Speed* is a quality which is found in a horse, an eagle, and a greyhound: the word *speed*, therefore, is an abstract term. But the word *Lion* is a General term; because it is a name applied to all the individual animals of one sort. The word we use when we think of a quality, together with the particular thing to which it belongs, is called a *concrete term: blue, square, good, swift*, are concrete terms; because they require to be joined to the name of something, as the blue sky, a square building, a good man, a swift horse.

See Chap. VI. and COMMON TERMS—GENERAL TERMS.

ABSTRUSE, from *Abstrudo*, to hide, or thrust out of sight; or to shut up a thing.

Subjects that require a patient effort of the mind to understand them are called *abstruse subjects*; they may be compared to metals, which lie hid in the bowels of the earth, and which must be dug thence with much labour.

It is an inaccuracy frequent in conversation, to use the words *abstract* and *abstruse*, as though they had the same meaning.

ACCIDENT, from *accido*, to fall close by; or to happen.

An *accident* is a quality of a thing which is not found constantly to belong to it: as red heat, to iron; fragrance, to a flower; learning, to a man.

ACTIVE and PASSIVE. That which causes a change is *Active*. That which is changed by a cause is *Passive*. See page 22, and CAUSE.

ADJUNCT, from *adjunctum*, joined to.

The binding is an adjunct of a book: praise is an adjunct of virtue, or genius. An *adjunct* is a *thing* joined to some other thing: an *accident* is a *quality* of a thing.

AFFECTION, from *affectio*, which word is derived from *afficio*,—to produce an effect upon something.

It is a general name applied to the qualities of things; or the particular manner in which they exist; or the relations in which they stand to each other. The way in which we think makes it natural to us to imagine that all the properties or qualities of things are, as it were, *fastened on to something* to which they belong: we use the word *substance* therefore when we wish to express this indistinct notion; and then all the qualities of that substance are called its *affections* or *modes*. A stick of sealing wax is smooth, hard, red, fragrant, and capable of being softened by heat. It has, also, a certain shape, size, and weight: besides these qualities with which we become acquainted by the senses of sight, touch, and smell; we always imagine that there is a *something* which is *the thing itself;* which possesses all these qualities; and which we call *substance;* while all that we actually know of it, is regarded as being only the qualities or affections of this Substance. See SUBSTANCE. MODE. BEING. ESSENCE.

AGGREGATE, from *aggrego*, to gather together as a flock of sheep.

The word is used to denote a number of things which may be thought of, as if they made but one thing; though they are really distinct, and often found separate. This notion may serve as an example of an abstract relation, which corresponds with nothing that is to be found in things themselves, but which results entirely from our manner of thinking of them. When we speak of a flock of sheep, the words represent nothing but our notion of a number of things, which, on some account, we imagine to form one thing.

AGREEMENT. When we compare two or more things and perceive them to be alike in some respect, we use the word *agreement:* when things are perfectly alike, we express the comparison by the word *sameness.* These are both complex abstract notions of relation.

ANALOGY, from *ἀναλογία—proportion:* When some course of events seems to follow the same order with another; so that we may imagine them to be influenced by similar causes; we say there is an *analogy* between them. And when we infer that a certain event will take place in one case, which we

have observed to take place in some other case, of a similar nature, we are said to reason from analogy. For example:— when it was observed that rice flourishes in the hot and humid plains of Egypt, it was by reasoning from analogy that it was supposed it would be advantageously cultivated in the sultry marshes of Carolina. We reason from analogy, when we suppose that the Stars, like the Sun are surrounded with Planets, which derive from them light and heat. When we see that every part of the Earth's surface, and every drop of water is crowded with animated beings, we reason from analogy, when we suppose that God, who has thus filled *one part* of his Universe with creatures, has done the same in other parts; and that therefore the Planets and the more distant systems are filled with living creatures.

Analysis, from *αναλυω* to untie, unloose, or separate one part of a thing from another.

Almost every thing with which we are acquainted consists of different parts or qualities, united together: in most cases we do not distinguish these different parts or

qualities of things without some degree of attention or examination: thus, when we look at water it appears to be one simple substance; but when it is examined by a chemical process, it is found to be formed by the union of two sorts of air. In like manner atmospheric air is found to be composed of three sorts of air. This kind of examination which discovers what any substance is composed of, is called an analysis. We may analyse our thoughts, or the feelings of our minds, as well as material substances. Suppose, for example, the idea of some building which we have formerly seen is present to our minds: if we analyse our thoughts, we shall find that, besides the image of the building, we have a feeling or conviction along with it of having actually seen the object at some former time. When an image in the mind is joined with this feeling, we call it *memory*. The image which is before our minds is joined also with some feeling of pleasure, or displeasure, according to the circumstances we might be in when we saw the building. Now all these sensations are so closely joined together in

the mind, that they seem to form one simple notion, or remembrance, till we examine our thoughts more accurately, and distinguish one feeling and one image from another.

In order to become acquainted with the nature of any object, we must first think of it with a wish to know more of its nature than we can perceive at the first glance; this is *Curiosity*. This wish to know, makes us forcibly keep our thoughts upon the object for some length of time: this is *Attention*. We then endeavour to think of the different parts, properties, or qualities of the object singly, and apart from the idea we have of the whole: this is *Abstraction*. When we have considered all the parts, properties, or qualities of the object, one after another, so that we can think of them separately and distinctly, we have then *analysed* the object: that is to say, we have separated from each other all the things in which we can perceive any difference.

See Synthesis, Complex; and Chap. IX.

Argument. A proposition which may be proved to be certainly true; so that no one who understands what is affirmed, can doubt

it, is said to be *demonstrable:* and the way of showing such a proposition to be true, is called a *demonstration.* But when a proposition is of such a nature that the truth of it cannot be made to appear *absolutely certain,* then the reasons that are given to prove it true are called *arguments.* Arguments may be balanced one against another; and when we have considered all of them, we believe that proposition to be true which is supported by the best arguments: and we ought to believe it more or less confidently in proportion to the strength of the arguments. Arguments make a proposition *probable;* and we *believe* what is probable: but *demonstration* makes a proposition *certain;* and we are said to *know,* not merely to believe what is proved by demonstration. It may be *demonstrated* that the three angles of every triangle are equal to two right angles. This is a truth we *know,* as soon as we understand what is meant by the words. It may be proved by good *arguments* that there is a city called Pekin in China: and it would be foolish to doubt this, although, strictly speaking, it cannot be demonstrated

to be true to those who have never visited China. It may be proved to be probable that there is a north West Passage from the Atlantic to the Pacific ocean; but this is not yet so certainly proved, as that it would be foolish to doubt it: a year hence, perhaps, the question may be determined: But what is once known by demonstration cannot be made *more certain* by any new proofs: while what is proved by arguments may be more or less certain. Many things, however, are so well proved by arguments, that no reasonable person will doubt them.

This is the meaning of the word *argument* as it respects the different ways in which a proposition may be proved to be true. In common use the word is often intended to express, besides the *mere reasons* that may be brought to prove what is affirmed, those earnest endeavours which one person makes to persuade others to be of his opinion, by exciting his *feelings* on the subject; and so biasing his Judgement.

In subjects which do not admit of Demonstration, such as those which afford the most usual topics of conversation, almost any

proposition may *appear* to be proved by arguments. This is, in part, owing to the uncertainty of language, which conceals the fallacies of bad reasoning. It is also, in great measure, owing to the confused and careless habits of thinking, with which most people are satisfied. In those discussions which frequently arise in conversation, it very commonly happens that the several parties adduce various arguments without having any clear or fixed apprehension of the notions contained in the propositions they maintain. From such debates little advantage is likely to result. He who is most fluent, or most crafty, or most dogmatical, may put his opponent to silence; and may *appear* to have overthrown his arguments: but, in fact, all that the victor has gained is a sort of triumphant confidence in the affirmation of some half dozen empty sentences; while all that the conquered party has lost is his *present* persuasion of the truth of some other half dozen of empty sentences. In most cases, if both parties were constrained to analyse every complex notion connected with the disputed question, (see Chap. X.)

they would either find that there was no real or important disagreement in their opinions; or the true nature of the point in dispute would become so apparent that no further argument would be needed; or, very probably, it would become manifest that neither party possessed a twentieth part of the knowledge which could qualify them to form any opinion on the subject.

See REASONING. PROBABILITY. DEMONSTRATION.

ARRANGEMENT. To arrange things, is not to separate and place them in order according to their true nature; but in such a way as will best suit some particular purpose. Thus, if we place the books in a library, not according to the subjects of which they treat, but merely with a view to our convenience in reaching those which we most often want to use, this is an *arrangement*, not a classification. Thus also, it may often be useful to arrange our thoughts, not according to a just method of thinking; but in that order which may seem most likely to produce the particular effect which we wish upon the minds of those to whom we speak. See

DISPOSITION. CLASSIFICATION. METHOD. ORDER, and Chap. IX.

ART, is the knowledge of what must be done to produce some particular effect. The word is only applied to those cases where considerable application of the mind is required to learn what is to be done. We do not use the word when we speak of the most common occupations; because, all that is necessary to be known in order to produce the required effect is easily learnt: SCIENCE is that sort of knowledge which does not *immediately* relate to practice: for example:—The knowledge of the different elements of all bodies, and the effects they produce upon each other, constitutes the Science of Chemistry. The same sort of knowledge, when it is applied to any practical purpose is called an *Art;* as, for instance, the art of Dying; the art of Brewing; the art of preparing Drugs for medical uses; &c. Men first learn Arts; because they are obliged to provide for the various wants of animal life. When nations are so far civilized that many individuals have leisure, then curiosity impels them to seek for knowledge,

merely for the pleasure which it yields. The knowledge which such persons acquire for their own pleasure, is soon after applied to the discovery of better methods of producing or preparing the different necessaries and conveniences of life. Thus it is that the practice of the Arts improves the condition of men so far that many are left at leisure to *think;* and then, those who think become qualified to direct and improve the practice of those who labour. Thus the Arts produce the Sciences; and then Science improves the Arts. See THEORY.

ARTIFICIAL; that which is produced by art.

There are some of the operations of nature which are so far within the power of man that he can *regulate* or alter the effects produced by natural causes: the effects that are thus produced are called *artificial.* By grafting one sort of fruit tree upon another, a better kind of fruit is produced than either of the trees would have yielded if left to itself: this is an artificial process. The word *artificial* is not applied to those things which are produced *entirely* by the skill and labour of men; as, for instance, a house,

or a watch : these are called *works* of *art*. It is only properly employed when the usual course of nature is *altered* by skill or labour. The word is often improperly applied to things that are mere imitations of the works of nature, as artificial flowers, or fruit.

Association. If several thoughts, or ideas, or feelings have been in the mind at the same time, afterwards, if one of these thoughts return to the mind, some, or all of the others will frequently return with it : this is called the association of ideas.

Attention. When we see, hear, or think of any thing, and feel a desire to know more of it, we keep the mind fixt upon the object : this effort of the mind, produced by the desire of knowledge, is called *Attention*. Ideas or feelings are constantly moving through the mind without our will : (see page 19) : but when *we will*, we have the power to stop them, and choose which shall stay in the mind. Now a sluggish mind is one in which the desire of knowledge is not great enough to rouse attention on ordinary occasions. A weak mind is one in which, though there may be much desire of know-

ledge—or curiosity, there is not force enough to fix or command the thoughts. The vigour of the mind greatly depends upon the just balance between the desire of knowledge and that force in which consists the power of attention. Whether the mind be naturally strong, or weak, or sluggish, education tends to increase the power of attention; or, in other words, to give it more command of its thoughts—more active Power, than it would otherwise have. See page 21.

Attribute, from *attribuo*, to give to, or impute. When one thing or quality is said to belong to or make part of another, that thing or quality is called an *attribute*.—See Subject.

Axiom, from αξιωμα, a sentence, or affirmation, worthy to be received.

This word is applied to simple propositions so evidently true that they do not need to be proved; such, for instance, as—That the whole of any thing is greater than any part of it.

Being. This is the name of a simple abstract notion, resulting from our consciousness, which cannot therefore be defined. Consi-

dered as a General term, it is the most comprehensive of all General terms: whatever *is*, or *exists*, is called a ***Being.*** It may therefore be applied to God in common with his creatures: God *is:* or God *exists;* He is emphatically called the Supreme BEING; or the Divine BEING.

BELIEF. The state of mind produced by *arguments* or reasons which appear to be good or sufficient, is called ***Belief.*** See the word ARGUMENT.

Belief is a state of mind between Knowledge and Doubt, in relation to the truth of some proposition. Although what we *believe* is not to us so absolutely certain as what we *know*, yet it is as truly unreasonable not to believe what is proved in the highest degree probable, as it would be absurd to pretend to doubt propositions that have been demonstrated. For example: We should think a person deficient in common sense, or extremely ignorant, who should profess not to believe that Paradise Lost was written by John Milton. It would be scarcely less absurd not to believe that the Œneid was written by Virgil, in the reign of Augustus:

yet neither of these propositions can be demonstrated to be true; therefore, although it would be extremely absurd to doubt them, we must not say that we *know* them to be true. But if we will not believe these historical propositions, we must, in order to account for the facts on which the common opinion is founded, *pretend* to believe that of which no reasonable and well-informed person could actually convince himself if he were to try.

If it is affirmed that the Moon is inhabited by animals and intelligent creatures, we may doubt this; because we have no direct proof that it is so: there is, therefore, nothing absurd in supposing that the Moon is uninhabited; although an argument from analogy is strongly in favour of the supposition. But if it were said that the island of Madagascar is uninhabited, we could not believe this without admitting the most absurd suppositions:—we must believe that thousands of persons, of different nations, during four hundred years, who have visited the island, have all agreed to tell the same falsehood; and that without any reason for doing so: this is incredible.

There is one difference between what we *know* and what we *believe*, which it is important to understand. Propositions which we *know* to be true, we entirely understand; or at least, so far as we may be said really to *know* them, we also understand them. But we must believe many things of which we scarcely understand any thing. For example:—Three taken three times amounts to nine. We *know* that this is true:—by one glance of the mind we can, as it were, *see* that it is true; we, therefore, perfectly understand what is meant by the words, when we say that three times three are nine. But let us suppose that a person who is acquainted only with the common rules of arithmetic, wants to resolve some problem belonging to the higher branches of the mathematics: he reads the rules which relate to the problem; and he carefully follows the directions which are given. First he multiplies;—then he divides;—then he substracts;—then he multiplies again; and so on: but he has not the *least notion* of the reason of all these operations which he is directed to perform: he cannot, therefore,

know that what he does is right, nor can he trace the method by which a true result is produced; yet, as he *believes* that the Rules he has followed are right, he *believes*, also, that the sum which these calculations produce is the true answer to the problem.

The greater part of all the Sciences is believed, and not known, by those who learn them from books or teachers. And in the most important concerns of life, men are obliged to act upon what they believe, not upon what they know: as, for example; when a merchant sends a cargo of goods to a distant country, he does not *know* that there is any such country as that to which the Captain undertakes to conduct the Ship. He does not *know* that there is any such person as the merchant to whom the cargo is to be delivered; much less does he know that this merchant is able to pay for the goods, and honest enough to do so; and yet, as he has reason to *believe* all these things, he does not scruple to venture half his fortune upon the truth of them.

In the same way, we cannot, in the present state, *know* that there is a judgement to come,

and a future life. But yet, if so momentous a truth may be compared to one of small importance, it is as absurd to doubt of this, as it would be not to believe that there is such an Island as Madagascar, and that it is inhabited. And it is as truly irrational not to regulate all our conduct in the present life by a regard to our welfare in the future world, as it would be in a merchant, to send a ship to sea laden with a precious cargo, without provisions, without charts, and without a compass.

The things which we may *know*, are generally of much less importance to our welfare, either in the present life, or in the life to come, than the things which are *believed.*

Cause. We are conscious of being able to *change* the thoughts in our own minds, as we *will;* and also to change the position or state of our bodies, and in some degree, the position or state of things about us, as we *will.* This feeling of being able to change the state of things, *according to our will*, gives us a notion which we call Power: now any thing which has really, or which *seems* to

have power to change the state of other things, is called a CAUSE: the change that takes place is called an EFFECT.

When we have observed that one event constantly takes place immediately, or soon after some other event, we cannot avoid believing that the first event has produced that which follows: therefore we commonly call the first event a *cause*, and the second, an *effect*. For example: when we see that, soon after the rising of the Sun, the hoar frost dissolves; or that the petals of flowers expand, we say that the Sun is the Cause,—and that the melting of the frost, or the opening of the flowers is the Effect of this cause.

If we were to observe that a clock had stopped at sun-set, we should take no particular notice of the circumstance; but if it were constantly to stop at sun-set, we should suppose that the setting of the sun was the cause of the stopping of the clock: and if all clocks always stopped at sun-set, we should not be able to doubt that the light of the Sun was, in some way, the cause of the motion of clocks; although we could not

find out *how* the sun acted upon the wheels, so as to produce this effect.

We see therefore that it is *natural to us*, whenever we see any change take place in the state of things, to believe that there is *something* which has the POWER to produce this change, and which we call the *cause* of it. It is also equally natural to us to believe that, when two events constantly takes place, one immediately after the other, the first of them is the cause of the second.

See EFFECT, and page 22.

CLASSIFICATION. The mind feels burdened and confused when it attempts to think of a multitude of things: but when we can put a multitude of things into a few parcels or bundles, we can then make ourselves acquainted with them all more easily, and more perfectly, and remember them with greater facility. The sorting a multitude of things into parcels, for the sake of knowing them better, and remembering them more easily, is *classification*.

When we attempt to classify a multitude of things, we observe some respects in which they differ from each other;—for we could

not classify things that are entirely alike; as a bushel of peas, for instance: we then separate the things that are unlike, and bring together the things that are similar.

The same things may be classified in different ways: for example:—A collection of Books may be classified according to the subjects of which they treat,—Theology, History, Mathematics, Natural Philosophy, &c. or they may be classified alphabetically, according to the names of their Authors: or they may be classified according to their size,—as Folios, Quartos, Octavos, &c.

See Analysis. Arrangement. Disposition. Method. and Chap IX.

Common terms, or names, are words which are applied to all the things which are alike in certain respects. *Triangle* is the name of every figure that is formed by the joining of three lines. See Abstract Terms. General Terms; and Chap. IV.

Complex. That which consists of several *different* things, so put together as to form a *whole*, is called complex. Complex things are the subjects of analysis. The analysis of complex notions is one of the first and

most important exercises of the understanding. See ANALYSIS, and Chap. X.

CONCEPTION, is the forming or bringing an image or idea into the mind, by an effort of the will. It is distinguished from *Sensation* and *Perception*—produced by an object present to the senses : and from *Imagination*, which is the joining together of ideas in new ways : it is distinguished from *Memory* by not having the feeling of past time connected with the idea.

CONCLUSION. When something is simply affirmed to be true, it is called a *Proposition ;* after it has been proved to be true, by several reasons or arguments, it is called a *Conclusion.*—' Sloth and prodigality will bring a man to want :'—this is a Proposition : after all the arguments have been mentioned which prove this to be true, we say, ' *therefore* sloth and prodigality will bring a man to want :' this is now the Conclusion. See REASONING. INFERENCE.

CONCRETE, from *concresco*, to be formed into one mass. When a quality is spoken of as joined to the thing to which it belongs, the word used is called a *concrete term*, as

white paper, *equitable* conduct. *Whiteness*, *Equity*, are abstract terms.

See ABSTRACT.

CONSCIOUSNESS. This is a general name for all our feelings taken together; or it signifies the feeling we have when we *look inwards* upon our own minds: it is as if the mind looked in a mirror and saw itself. The mind is constantly occupied with some sensation, or some image, or some feeling; and generally, it is engaged only with the sensation, or image, or feeling; but sometimes there is also a notion of *itself*, having such a feeling, or sensation, or thought; this is called *consciousness*.

CONTINGENT, from *contingo*, to touch; to hit; to happen.

When any event takes place which seems to us to have no cause, why it should happen in one way, rather than another, it is called a *contingent event:* as, for example; the falling of a leaf on a *certain spot;* or the turning up of any particular number, when the dice are thrown. In reality, nothing happens by chance: or, to speak more properly, *chance* is a word which has no real

meaning, except it be taken as a convenient name for our ignorance of the cause of some effect. If we see a leaden bullet fall to the ground, we know *beforehand* that it will fall on the spot perpendicularly under it; because we know it to be influenced only by the attraction of gravity; and therefore, when it actually falls where we had expected it to fall, we do not say that it fell there by chance; for we think that it could not have fallen any where else. But when we see a leaf fall, we cannot tell beforehand where it will alight upon the ground; because it is influenced by changing currents of air, as well as by the attraction of gravity; therefore we imagine that it falls where it does by *chance*: and its falling on one spot, or on another, is called a *contingent event*. But this way of speaking only means that *we* cannot tell *beforehand* how the thing will happen. Nothing comes to pass without a cause.

The rising of the Sun to-morrow is not called a contingent event; because we consider it as certain. The fineness of the day we think contingent; because we cannot foretel the state of the weather; but if we

knew all the causes which influence the state of the atmosphere, and how they follow each other, so as to produce rain, or drought; *then* we should no longer speak of a fine day as an accidental or contingent event; because it would always take place according to our expectation. See NECESSITY.

DATA, the plural of *datum*,—a thing given, or granted. Those facts from which an inference is drawn, are called *data*: for example:—it has always been found that the inhabitants of temperate climates have excelled those of very hot or very cold climates, in Stature, Strength, and Intelligence: these facts are the *data*, from which it is inferred, that excellence of Body and of Mind depend, in some measure, upon the temperature of the climate. See INFERENCE.

DEFINITION. To define a thing is to mention something which marks or distinguishes it infallibly from things that are similar to it.

One mark or difference is enough for a definition, if it makes it impossible to mistake what is meant. In making a definition, we first mention the name which belongs to all the things that are nearly like the object to

be defined; and then we mention that particular circumstance in which it is unlike those other things that are called by the same general name. Sometimes several definitions, more and more particular, are required to make a thing known. Thus; an Elephant is an Animal having four legs. The word *animal* belongs to all things that grow and move from place to place: we then distinguish it from other animals, by saying, that it has four legs: this shows that it is not a Fish, a Bird, or a Reptile. But there are many animals besides Elephants, that have four legs; therefore we must find another more particular definition: we say, then, that an Elephant is a quadruped—having a long and pliable trunk projecting from its nose:—this is a mark or distinction which will make it known from all other quadrupeds. A definition does not *represent* a thing to the mind, as a picture does to the eye: such a representation made by words is called a *description.* See page 42.

The definition of *words* is different from the definition of *things.* Certain words come to signify certain things by use or

custom ; but use or custom, in language, as in all other things, is liable to be changed by time and accident. Besides : few men speak accurately, and fewer still think clearly ; Hence, there is much confusion and mistake in the signification of many words. When, therefore, we wish to avoid mistake, as far as it is possible in conveying our meaning to other men's minds, it is necessary to inform them in what sense we use words. That is to say,—we give definitions of *words* by giving *descriptions* of the *things* which we intend to signify by them. The definition of words is most necessary where words are employed by different persons in very different senses. For example :—the word *virtue*, is used, sometimes to signify courage and fortitude ; sometimes, a freedom from gross offences against temperance, or justice ; sometimes, real goodness ; which consists in the love of God, and of our fellow-creatures. If then, we think it probable that those to whom we speak will understand the word *virtue*, in one sense, while we use it in another, it will be necessary to define the word, which is done by *describing* the *thing* we intend to signify by it.

DEMONSTRATION. To demonstrate, is to show, or to make evident.

When we have a perfect view, or a perfect understanding of two objects,—so that their likeness or the difference between them appears at once, we feel sure that we cannot mistake in what we say concerning them. If it is said that twice three are six, we can, as it were, *see* that this is true; we *know* it to be true; or if it be said, that twice three are seven, we know that this is not true. Propositions that are absolutely certain and *evident at once*, are usually called Axioms. Propositions that are absolutely certain, but which comprise too many particulars to be evident at once, are said to be proved by demonstration. We are obliged, on account of the imperfection of our minds, to attend to all the particulars contained in the proposition, *one* by *one:* and each of these particulars is some axiom that we perceive to be true at once. For example: if it is affirmed that 438 times 541, are equal to 236958,—this is a proposition that is absolutely certain; but it is not evident *at once;* because it contains more particulars than

the mind can comprehend in a moment; therefore we are obliged to make it evident to ourselves, by attending to each particular singly: we aid our narrow powers of thought by what is called a series of demonstrations. When we have paid sufficient attention to each particular in such a process, we feel as sure of the truth of this complex proposition as we do of the truth of the simplest axiom. It makes no difference in the certainty of a proposition, whether the process necessary to demonstrate it be long or short. It may require a long process to demonstrate that an Eclipse of the Moon will take place at such, or such an instant, a hundred years hence; yet this may be proved as certainly as that 3 times 9 are 27; because, though there are many particulars, following each other, every one is absolutely certain, and the connexion between them is also certain. See BELIEF. REASONING.

The word *demonstration*, ought only to be used where it signifies the showing of things which may be *known* certainly.

DESIGN. What is done, neither by accident, nor simply for its own sake, but with a view

to some effect that is to follow, is said to be the result of *design*. None but intelligent beings act with design; because it requires knowledge, and the power of comparing ideas, to conceive of some end or object to be produced, and to devise the means proper to produce the effect. Therefore, whenever we see a thing which not only may be applied to some use, but which is evidently made for the sake of the effect which it produces, we feel sure that it is the work of a being capable of thought. If, in travelling through an uninhabited country, we were to find a tree lying across a deep and rapid stream, in such a way that we could pass across upon it, we should merely think that, having formerly grown on the bank, it had been blown down by the wind: but if we were to find two trees laid across the stream, and tied together, we should feel sure that this must be the effect of *thought*, not of accident. In the same way, when we perceive in every natural object, all the parts fitted in the best way to produce certain effects, we feel sure that what we see is the work of an intelligent Being.

DISPOSITION. To dispose things, is to place them in some order, for the sake of convenience. A good disposition of our thoughts, upon any subject, is such a manner of placing them as will make them most readily understood by others, or most easily retained in the memory. It is a common mistake for persons to suppose that, to arrange, or dispose their thoughts, is the same as to analyse them.

See ANALYSIS. ARRANGEMENT. CLASSIFICATION.

DISTINCTION. A distinction is the expressing in words, some difference which has been perceived between two or more things.

DISTRIBUTION, is the placing particular things in the places or compartments which have been already prepared to receive them. When we have arranged or disposed our thoughts in a certain order, and afterwards other thoughts occur to us, we *distribute* them according to the same plan.

See ARRANGEMENT. DISPOSITION.

DIVISION, is the separating things of the *same kind* into parcels: analysis is the separation of things that are of *different* kinds; we

divide a stick by cutting it into two, or into twenty pieces: we analyse it, by separating the bark, the wood, and the pith—a Division may be made at pleasure, an analysis may not.

See ANALYSIS.

DOUBT, is some degree of belief, along with the consciousness of ignorance, in regard to a proposition. Absolute *disbelief* implies Knowledge:—It is the knowledge that such or such a thing is not true. If the mind admits a proposition without any desire for knowledge concerning it, this is *credulity*. If it is open to receive the proposition, but feels ignorance concerning it, this is *doubt*. In proportion as knowledge increases, doubt diminishes, and belief, or disbelief, strengthens.

No one ought to profess to *disbelieve* any proposition, unless he is *sure* that he *perfectly understands* the subject to which it relates. To do so is the most absurd presumption. Those who profess to doubt the truth of important propositions, thereby acknowledge their ignorance; they ought, therefore, not to rest till they have sought information by every possible means.

Duration. When any thought, or feeling, or image, ceases to engage the *principal* attention of the mind, we do not part with it instantaneously, and entirely; but it seems, like the objects on the road side when we are travelling, to keep in sight, while other objects are immediately before us: thus we acquire the notion of *succession*. After some thought has entirely disappeared from the mind, it will often return, joined with the feeling that it has been in the mind before: this feeling is what is called Memory. Memory gives us the notion signified by the word *duration*. Time is duration measured into equal parts.

Effect, is some change produced by a being that has Power. That which exerts power is called a Cause. See Cause.

Essence. All the properties or qualities without which a thing could not exist, or without which it would be entirely altered, make up what is called the *essence* of a thing. Three lines joining, make the essence of a triangle: if one is removed, what remains is no longer triangle. A living body, joined to a reasonable soul, make the essence of a human

being. Sheets of paper, covered with writing, or printing, and fastened together, are the essence of a book. Besides the qualities that make a thing what it is, there are other qualities which may be added or taken away, without changing or destroying the essence of it; as, for example, the binding to a book; or health, learning, goodness, to a man; these qualities are called Adjuncts. See Nature.

Evidence. When facts which are already known or believed to be true, are mentioned in order to prove some other fact to be true, such facts are called *evidence.*

Existence, means the same as Being. That which *is,* is said to *be,* or to have existence. See Being.

Experiment. If we attend to what takes place around us, with a view to gain knowledge, we are said to learn by *observation.* When we put causes in operation with design to try what effect will follow, we learn by *experiment.* It is natural to us to believe that every change we see in the state of things is produced by some cause: it is also natural to us to desire to know the

causes of all the effects which we observe. Now there are two ways of learning the causes of things; one is by watching effects carefully, and often: the other is by first *guessing* what the cause of an effect may be, and then trying whether it is really so: this last method is called *experiment.* The guess, or supposition which we make before we try experiments, is called an *hypothesis.*

It has been observed that thunder storms usually follow dry and hot weather; we believe, therefore, that the dryness and heat of the atmosphere are, in some way, the cause of thunder and lightning: this we learn by observation. Dr. Franklin *guessed* that lightning is the same fluid which is produced by rubbing amber, called the electric fluid: this was his *hypothesis:* in order to find if his hypothesis were true, he flew a kite in a thunder storm, having a small wire along with the string. When the thunder cloud passed over the kite, he drew sparks from the lower end of the wire, which had all the appearances and properties of those produced by an electrical machine: this was an experiment; and it proved that

his hypothesis was true. See HYPOTHESIS. INDUCTION.

EXTENSION. The notions acquired by the sense of touch, and by the movement of the body, compared with what is learnt by the eye, make up the idea expressed by the word *extension*. When we think of many feelings,—one coming as the other goes, we have the notion of *Duration:* When we think of many feelings in the senses of touch or sight, existing at the same moment, we have the notion of Extension.

FACT. If we speak of the changes which take place in the state of things, with a view to inquire into the causes which produce them, we call them *facts:* after we suppose that we have discovered their causes, we call them *Effects*.

GENERAL TERMS, express the notions which are formed in the mind after having perceived a number of objects, nearly resembling each other. It is commonly only a faint or confused idea which passes through the mind when we employ General terms.

See ABSTRACTION. COMMON NAMES; and Chapter IV.

GENUS and SPECIES. See Chapter V.

HYPOTHESIS, from ὑπόθεσις,—a supposition.

See EXPERIMENT.

Experiments made with the intention of discovering the causes of effects would be endless, and, for the most part, fruitless, unless they were directed by probable suppositions, or hypotheses. An hypothesis is formed upon *some degree* of knowledge acquired by observation, or experience, or former experiments. Every advance in knowledge affords ground for further hypotheses, to be followed by new experiments.

We observe that one spot in a meadow produces much stronger and better grass than the rest of the field: we remember that a heap of rubbish and litter, consisting of various matters, had lain for some time upon that spot. Now, supposing that we were entirely ignorant of the nature and use of manures, our first guess, or hypothesis, perhaps, would be, that the cause of the productiveness of this spot was merely its having been covered up from the air for some time: on this supposition, therefore,

we try an experiment, by covering another spot with rubbish, for the same time: but we find that the same effect is not produced in this case. We next imagine that it must have been the qualities of some article in the first heap, which was the cause of the fertility of the spot. We examine the heap, and find that it consisted of ashes, sea weed, and rotten vegetables: we therefore lay a parcel of each of the ingredients, separately, upon different spots: and if we afterwards observe that the spot on which the sea weed had been placed, was the most fertile, we conclude that that was the true or principal cause of the effect we had noticed. This is the way in which all useful knowledge of the laws of nature is acquired; First, we notice facts; then we *guess* what may be the causes of these facts: then we try experiments, or make observations, in order to prove whether our hypothesis be true: when we have proved it true, we have learned, what is called a general law: that is to say, we have discovered that such or such a thing will always be followed by such or such an effect: or, in other words, that

two things,—one called cause, and the other effect, always happen together.

IDEA. This word is often employed to signify any kind of thought. Its more proper meaning is a thought of some object which we have before perceived;—such a thought as may be called an *image* of an object in the mind. The mind is able to join together ideas, so as to form images of things which it has never actually seen: this joining of ideas is called *Imagination*. Thus we can *imagine* a silvery tree, bearing golden fruit: or a horse, flying with wings through the air. When these joined ideas are of a kind to give pleasure to the mind, they are called poetical images.

IDENTITY, means *sameness*. What is called Personal Identity, is our being the same persons from the commencement to the end of life; while the matter of the body, the dispositions, habits, and thoughts of the mind, are continually changing. We feel and know that we are the same: this notion or persuasion of Identity, results from memory. But our being actually the same does not *depend* upon memory. If a man

loses all recollection of his early life, he continues, nevertheless, actually the same person.

IMAGINATION. See IDEA. When it is said that the mind possesses the faculty of imagination, all that is meant is, that, as often as we will, we can join together, in different ways, the ideas of things which we have before seen, heard, or felt. When we know that we are forming these images at our pleasure, we are said to *imagine:* when they come into the mind along with the feeling of having actually perceived them at some former time, we are said to *remember*, or to exercise memory.

INDUCTION, is the observing as many facts as we can, or the trying as many experiments as we can, in order to discover the real nature or causes of things.

For example:—Suppose a person recovers from a fever, after taking some new medicine, we naturally suppose that this medicine was the cause of his recovery; but it is not certain that it was so; because he might have recovered as soon, if he had not taken it: we must try this medicine in *many* cases,

carefully observing all the effects it produces in different patients, before we ought to conclude that it is a remedy for this particular kind of fever: and after we have thus proved by induction, that it will cure *one kind* of fever, we must not conclude that it will also cure a similar kind of fever, till after we have tried it in many cases.

Lord Bacon first taught the true way of gaining substantial and useful knowledge by *Induction*. Men have always been fond of *fancying* that they understood the nature of things, without taking the pains to observe facts and try experiments. See EXPERIMENT. HYPOTHESIS. INFERENCE.

INFERENCE. An Inference is some proposition which is perceived to be true, because of its connexion with some known fact. There are many things which are always found together; or which certainly follow each other: therefore, when we observe one of these things, we *infer* that the other also exists, or has existed, or will soon take place. If we see the print of human feet on the sands of an unknown coast, we *infer* that the country is inhabited: if these prints are

fresh, and below the level of high water, we *infer* that the inhabitants are at no great distance: if the prints are those of naked feet, we *infer* that these inhabitants are probably savages: if they are the prints of shoes, we infer certainly, that they are, in some degree, civilized.

The confidence with which we rely upon the truth of an inference, results from a persuasion natural to the human mind—That every effect has a cause; and—That the connexion of certain causes with certain effects is constant: or, in other words,—That events which we observe uniformly to succeed each other, have always succeeded each other in the same order; and that they will continue so to do. To refer to the instance just mentioned; when we observe the print of human feet upon the sand, how do we *know* that men have lately been upon the spot? Why do we believe a fact which we did not see and which no one has reported to us? The manner in which the conviction takes in the mind is this:—Here is a fact before us, namely, impressions upon the sand: we think of these impressions as

Effects produced by a *Cause* :—a change in the surface of the sand has taken place, and we cannot think of any change taking place in the state of things without a cause. The nature of the effect then guides us in searching for the cause :—a hollow in the sand, having the size and shape of the human foot, must have been caused by the pressure of the human foot.

But when these prints, though below the level of high water, are yet well defined, why do we infer that men must be at no great distance? This inference rests upon the persuasion that the course of natural causes remains constant. These prints, we say, have been made within the space of six hours, because the interval between high and low water is constantly about six hours, and because the flowing of the tide would have obliterated such slight impressions if they had been made before the last flow. If, therefore, men have trode upon these sands since the last tide, they cannot now be at a great distance; because men do not remove from place to place with the swiftness of birds. In all this reasoning we rely upon

the persuasion that every effect has a cause, and that the succession of causes and effects is uniform or constant.

In fact, this sort of reasoning, and this reference of the mind to the uniformity of causes and effects, does not deliberately take place on every common occasion. Many inferences are made in the course of every day, by an instantaneous action of thought. Effects *suggest* their causes to the mind, without a formal process of reasoning. Reasoning and a reference to the uniformity of causes and effects take place only when some doubt arises relative to the true cause of an effect.

Inferences are liable to be erroneous, chiefly from two causes :—

1st. We may too hastily suppose certain events to be constantly connected, as cause and effect, which really have been only occasionally or accidentally connected. Many superstitious opinions, held by uneducated persons, are founded upon false inferences of this sort. Some particular domestic accident has been observed to occur before the death of an individual of the family. The

next time this accident occurs, it is supposed to be the prognostic of another death. This is a false inference, because there was no connexion of cause and effect between the accident and the death.

2dly. Inferences are often false, because we fix upon the cause of an effect inconsiderately, either not knowing, or not duly regarding the many other causes which may have been in operation to produce the Effect. False inferences of this sort are of very frequent occurrence in common life. It is the part of a sound and calm judgement, to hold the mind in suspense, rather than to draw hasty inferences where there is reason to suspect that we are not acquainted with all the causes that may have produced the effect which we wish to account for: for example;—A person receives a letter professing to contain a bank note; but the note is not in it. The seal has some appearance of having been broken and repaired: the letter was delivered to him by a servant whose integrity he has some reason to suspect. The inference which is immediately suggested by these facts is that this servant

has withdrawn the note from the letter. But to make this inference without proof would be unjustifiable. A person of sound judgement will remember that this is a case in which many causes beside the one mentioned might be supposed to have produced the effect. He therefore suspends his opinion, till he has made further inquiry. In a few days he learns from his correspondent that after he had sealed the letter, he re-opened it to add a postscript, and that, in so doing, the note fell out, and was not perceived until the letter was dispatched.

Nothing is more important in the conduct of life than the habit of *abstaining from unwarrantable inferences.* A wise man suspends his inferences upon the modest recollection of his ignorance, and the fallibillity of his judgement. On the contrary, both weak minds, and ardent minds,—the former from fear, the latter from presumption, fix upon the *first* inference which the nature of an effect may suggest.

In philosophical inquiries, inferences should follow the most complete and satisfactory induction; (see INDUCTION;) and

where, from the nature of the case, this complete and satisfactory induction cannot take place, we should ingenuously confess our ignorance. (See TRUTH.)

The chief source of false systems of natural philosophy has been, that probable or plausible *conjectures* have been admitted in the place of just inferences: such conjectures, how plausible soever they may seem, ought merely to be employed *hypothetically*, to suggest and guide Experiments.

See REASONING; INDUCTION; EXPERIMENT; HYPOTHESIS.

INFINITE,—that which has no bounds, or end: things, also, are called infinite of which we do not know, or do not notice the boundaries; thus, if a line be drawn without regarding the length of it, it is called an infinite line; though it may not actually be longer than another line beside it, which is called finite; because we mark, measure, or notice the boundaries of it.

It is very common to use the word *infinite* improperly, instead of *absolute*, or *perfect*. When we speak of qualities which cannot be

numbered or measured, it is more correct to call them *perfect*, or imperfect, than *finite*, or *infinite*. Snow is not *infinitely* white; but *perfectly* white: we may, indeed, use the word *infinite* in relation to the Divine Attributes; because we wish to express in a *general way*, that every thing which relates to God is beyond our comprehension: thus we say that God is infinitely holy, and infinitely good, and wise: though, if we designed to speak more accurately, we should say that God is perfectly, or absolutely holy, good, and wise.

INTELLECTUAL, from *Intelligo*, to understand, or know. All the operations of the mind in receiving new ideas, or in remembering those formerly received; in joining them together, or in separating and comparing them, belong to what are usually called the intellectual powers. The Intellectual powers are commonly distinguished from the Moral powers, the objects of which are, whatever excites feelings or emotions of pleasure, or pain; things beautiful, or ugly;—things good, or evil.

INTUITION, from *Intueor*, to look upon. What we know or comprehend as soon as we perceive or attend to it, we are said to know by *intuition:* things which we know by intuition, cannot be made more certain by arguments, than they are at first. We know by intuition that all the parts of a thing together, are equal to the whole of it. Axioms are propositions known by intuition.

INVENTION. There are two very different operations of the mind to which the word *Invention* is commonly applied.

Poetical Invention is the collection, selection, and combination of images or sentiments, which are perceived to agree in producing some particular effect upon the imagination or the feelings. Poetical invention, therefore, results from the perception and recollection of resemblances or analogies.

Mechanical Invention results from efforts of abstraction. It is founded upon the perception of the relation of means to an end; or the knowledge of the connexion between causes and effects. Some effect is proposed or imagined. The effect suggests various causes by which it might be pro-

duced: the qualities of these causes are compared by an effort of abstraction; and that particular cause is adopted, which is supposed to be the most fit to produce the desired effect. There are two things in which, chiefly, the talent of mechanical invention consists: the first is the ready and copious suggestion of analogous ideas; herein it resembles poetical invention, and wit. The second is the habit of considering abstractedly the mathematical properties and relations of bodies.

Men and beasts alike betake themselves to the shelter of trees or rocks during a pelting storm: they both seek to accomplish an end by the use of the means. The animal, however, proceeds no further than to recollect the connexion between the tree or rock, and the feeling of protection from cold and wet, which it has before afforded. But Man, not only remembers this connexion, he thinks *abstractedly* of *Shelter* or protection; and the abstract notion suggests other things which might afford it in a better or more certain manner. What then does he do? does he seek to construct some-

thing as similar as possible to the rock or the tree which have hitherto afforded him shelter? He would do this if he simply followed the suggestions of memory: but he aims to realize the abstract notion he has formed of *Shelter*. The rock affords shelter only from one quarter: the tree is pervious to the wind and rain: but the hut which he builds is a shelter on all sides, impervious to the weather. The rock, the tree, the hut, agree in one abstract property; they afford shelter; and the artificial product of this abstract notion unites the protecting properties of the various objects from which the notion was first formed.

The use of INSTRUMENTS distinguishes man from inferior animals, and gives him power over them, and over many of the operations of nature. Now every instrument, or tool, or weapon, every machine,—every production of skill and labour, by man supplies his wants, defends himself from injuries, or abridges manual labour, is the *embodying of some complex abstract notion*.

Invention is distinguished from *Discovery.* Invention is the creation or construction of some thing which has not before existed. Discovery is the making manifest some thing which hitherto has been unknown. The art of navigation has been improved by a signal *discovery*, namely, the polarity of the magnet: and also by a signal *invention*—the time-piece: by the discovery of the polarity of the magnet, the direction of the ship's course is known: by the invention of the chronometer, the ship's place—east or west, is determined.

JUDGEMENT. When we perceive or think of two objects, we do not merely think of them separately; but most often, we compare them together, and determine that they are like or unlike; equal or unequal; &c. Judgement is this act of the mind in comparing together two or more objects or notions, and in forming some kind of proposition expressive of the relation which has been perceived.

Judgement is often spoken of as a separate power or faculty of the soul, in distinction from Imagination, Memory, &c. All that

is really meant by these modes of expression is, that the mind sometimes compares objects or notions;—sometimes joins together images; sometimes has the feeling of past time with an idea now present, &c. When it is said that such a one has much Imagination, but that he has little Judgement; or of another, that he has an acute Judgement, but no Imagination;—it is intended to say, that one mind is most apt to perceive *differences* among objects or notions; while another is occupied by *resemblances* and analogies, and attracted by what is beautiful and sublime.

When the particular character of different minds is spoken of, there are several epithets usually connected with the word Judgement. The Judgement is said to be calm, or cool, or dispassionate: it is said to be clear, or acute, or profound, or comprehensive. Most of these epithets express the freedom of the intellectual faculty from some one of those influences which are apt to disturb the mind in the operation of comparing objects or notions. It must be remembered that the mind never *acts* without *some motive:*

now the only motive which should influence the mind in carrying on any purely intellectual operation, is—*The desire to arrive at a true result.* If a person is employed in determining which is the greater number—twice four, or three times three, he is incited to carry on the necessary process of reasoning, simply by the wish to obtain a true solution of the problem: but if it were possible to be deceived in resolving such a problem; and if, at the same time, the person had some motive for wishing to prove that twice four are more than three times three, the intellectual process would be interrupted, or obscured by this wish, and an erroneous solution would probably be the consequence. There is, however, little room for indirect motives in mathematical reasoning, but in the conduct of common affairs, or in the formation of opinions, there are almost always some motives beside the desire of truth, which, more or less, strongly influence the Judgement. A good Judgement, therefore, is one in which the *desire of truth* is always the predominant motive. But there is some diversity in the

excellence of the Judgement: or, in other words, one mind is most free from one kind of improper motive, another, from another kind; for example:—

A person is said to have a *calm* Judgement who is able to carry on the intellectual process of comparing objects or notions without being intimidated by circumstances of danger in which he may be placed, or agitated by the passion or violence of those about him: he is not disturbed by motives of fear or resentment, &c. Such a person may be an able General, or a good Arbiter in angry disputes. A calm Judgement united to benevolence, constitutes the character of the peace-maker.

The phrase a *cool* Judgement is commonly used nearly in the same sense. The *calmness* of the Judgement consists in the power of the mind to resist *external* disturbances. The *coolness* of the Judgment results from the absence of *internal* disturbance. Such internal disturbance may proceed from nervous irritability,—or from the liveliness of the imagination,—or from the sensibility of the moral feelings,—or from sensual or

malignant passions. Persons who have this coolness of Judgement are likely to be successful in trade; because the desire of gain is a tranquil passion; and it serves to give vigour to the desire to obtain *a true result* on every occasion when the Judgement is to be exercised. A person of cool Judgement will have an advantage over many of those with whom he deals; because, while the intellectual action of most men's minds is impeded or perverted by a variety of motives, *his* are free from such influence; and therefore the probability of forming just estimates of things will always be in his favour. It may be observed, however, that persons who have this coolness of Judgement, owing to their frequent success in the conduct of affairs, are peculiarly liable to self-conceit: this vanity becomes at length an *indirect motive*, which tends to pervert or disturb the understanding. Such men, in order to obtain the immediate gratification of their intellectual vanity, often confine their views to the present moment, and to small advantages, while they become blind to great and distant objects. The common terms—

'cunning, fraud, worldly wisdom,' &c. express different degrees of that sort of *short sightedness* which is produced by self conceit on a cool Judgement. Coolness of Judgement is truly admirable when it results, not from the want of imagination and moral sensibility, but from *strength of Will*, which is able, whenever it is necessary, to keep all emotions in subjection.

The epithets *acute*, *profound*, and *comprehensive*, applied to the Judgement, express different degrees or kinds of *activity* and of *force* in the intellect. Next to the various perverting motives which have just been referred to, the principal source of errors in judgement is the *inertia*, or tendency to rest, which belongs to mind as well as to matter. Intellectual action ceases before the process of comparing objects or notions is completed; these *unfinished comparisons* are, of course, false judgements. Now activity or force of mind which opposes this inertia, shows itself in different ways; for example:—a mind capable of a short and vigorous effort, will complete a single process of thought, and produce a *perfect*

comparison of two or three objects. This sort of faculty forms what is called an *acute* Judgement. A mind capable of long continued, but not very rapid action, will complete the comparisons it makes, and will pursue one pair or set of comparisons after another, as long as it can perceive any connexion between sets of objects or notions. This sort of faculty constitutes a *profound* Judgement.

Where a vivid desire of truth or knowledge is united with great modesty, or diffidence, or, perhaps, with some feebleness in the constitution, there will be an intermitted or *reiterated* action in the mind, in relation to the same subject: this will leave the mind open to the occurrence of new objects or ideas, which ought to be included in the comparisons that are carrying on: the frequent correction of comparisons or judgements will induce the habit of suspending the judgement, and of viewing every subject in different lights. These habits produce a *comprehensive* Judgement.

Acute minds often err from the want of *reiterated* action: Profound minds often err from the want of *intermitted* action.

Comprehensiveness is the highest excellence of the Judgement. Acuteness, profoundness, or comprehensiveness, are often found without calmness, or coolness. In such cases the excellence of the judgement is liable to be entirely obscured, and only appears under favourable circumstances. Hence it is, that some persons are able to conduct other men's affairs with the most admirable judgement, who always mismanage their own: in their *own* affairs they cannot be calm or cool. Hence too, it often happens that studious men, whose minds are in the highest degree acute, profound, or comprehensive, while occupied with literary or philosophical subjects, act like children when occasionally exposed to the agitations of public life.

Logic, is the art of thinking well. The mind, like the body, requires to be trained before it can use its powers in the most advantageous way. A man may be strong and brave without having learnt the military exercise; but he will be able to exert his natural strength and courage to much more advantage, after he has been trained

as a soldier: and so, a man whose understanding has been regularly taught and exercised in the art of Thinking, will be able to employ his natural powers more quickly, easily, and certainly, than he could otherwise have done.

A multiplicity of unmeaning or unimportant distinctions were formerly made, and much idle labour was spent in logical studies. The good sense of modern times has brought these useless pursuits into disesteem; but this revolution in the plan of education has perhaps been carried too far: the artificial training and exercise of the intellectual powers is, at present, too little regarded. A modern education stores the memory with a great and various mass of well-ascertained and important facts; but it leaves the powers of abstraction and reasoning uncultivated, and only accidentally exercised. In consequence of this system, while extensive information on all those branches of knowledge which consist in mere *collections* of *facts* is widely diffused, very few individuals are found who are competent to a continued effort of thought: and

very few books are published which require in the reader more than the lightest exercise of the intellectual faculties.

Logic is distinguished from Metaphysics: the former is an *art*, the design of which is to exercise the mind in abstraction, generalization, and reasoning; the latter is a *science*, which professes to explain all facts relating to the nature of the mind.

MATTER, is that which occupies Space; and with which we become acquainted by its obstructing or preventing the movements of the body. Every thing of which we have any knowledge, is either *Mind*, or *Matter*. Mind is that which feels:—matter is that which makes itself felt by the mind, through the sense of touch.

MEMORY, is the having an idea or notion along with some thought of past time. Memory gives us the notion of continued existence, or duration; and also the persuasion of personal Identity, during all the changes which may take place in the temper, and habits, and external circumstances, and the condition of the body. Memory gives us this persuasion; but our actually being the

same does not depend upon our recollection of our past lives, for if we were entirely to lose all memory, we should as truly be the same persons as before.

METHOD, is the putting our thoughts in a certain order, for the convenience of our own minds, or the minds of those whom we wish to teach. *Methodical* habits of thought are often mistaken for *Analytical* habits of Thought. See Chap. IX. and ANALYSIS.

MIND. That which perceives, feels, thinks, and wills.

MODE. The manner in which a thing exists is called a *mode*, or affection: Shape and Colour are modes of matter: Memory and joy are modes of mind. See AFFECTION. ESSENCE.

NATURE. All the properties or qualities which make a thing what it is, are signified by the word *nature*, or essence. It is a convenient word by which we express at once all that belongs to *our notion* of any thing.

NECESSITY, is opposed to *contingency*: future events, of which we do not know the causes that may influence them, are called *con-*

tingent; but events of which we know the causes, so that we are able certainly to foretel what will happen, are called *necessary.* The only difference between what we call contingent, and what we call necessary exists in our own minds, and depends upon different degrees of knowledge. Every event has a cause; and every cause produces its effect certainly, in connection with other causes.

The very same event may be considered as *contingent* by one man and as coming to pass *necessarily* by another. A bowing wall is observed by two persons: if the first is asked whether it will stand a year longer, he replies,—'It may fall, probably; but it is *possible* that it may stand a year: its falling is a *contingent* event.' The other person, who is a builder, has examined the state of the wall; he perceives that it is constantly declining from the perpendicular: he sees that it *must* fall in a few days: *he,* therefore, considers the event, not as contingent, but as necessary. The difference in the opinion of these two persons results from their different degrees of knowledge.

Whoever *knows perfectly all* the causes which will influence an event, views that event, not as contingent, but as necessary.

Necessity is often opposed to *Liberty*, when the actings of the mind are spoken of. A being who has liberty, or, who, as it is termed, is a *free agent*, is one who *wills*; and who does what he wills. We speak of the future actions of men as *contingent*; because *we* cannot know the motives or circumstances which will be the causes of their actions. But we do not so often speak of our own future actions as contingent; because we commonly suppose ourselves to know the motives by which our actions will be determined. Yet it is plain that one man's actions are not really more contingent than those of another. We can imagine ourselves to be placed in circumstances, wherein we could foretel *certainly* what our conduct would be;—(supposing no other causes than those we are aware of, will be present to influence us.) And yet, while we thus think of our future conduct as certain, or *necessary*, we still feel ourselves perfectly free. We are sure that we are *free agents*, when-

ever we can choose, and follow our choice. The future actions of men are known to God; because he knows *all the causes* that will influence their actions.

NEGATIVE, is opposed to *Positive*, if the absence of some active quality is spoken of: for instance:—harmlessness may be called a *negative* virtue: beneficence is a *positive* virtue. Harmlessness is negative, as it implies the absence of a disposition to commit inquiries: it is also negative, if contrasted with the active disposition to do good.

Negative is opposed to *affirmative*, when the words are applied to propositions.

'Riches are not sufficient to make a man happy.' This is a negative proposition; because two things are brought together, and it is declared that they do not agree.

'True happiness results from the favour of God.' This is an *affirmative* proposition: two things are compared which are found to agree, or to be connected together.

NOTION. Any thought may be called a notion. The word *Idea* properly means an *image* in the mind of something that has been per-

ceived by the senses: a notion is also distinguished from a feeling, or emotion, in which the mind is conscious of pleasure or pain.

ORDER. Many things considered *indefinitely*, or without regard to *how many*, constitute a *multitude*: many things considered *definitely*, as so many, make a *number*. *Order* is the following of one thing after another, in a fixed way. In using the word *number* we think of the whole together,—making,—20,—50, &c. But in using the word *order* we think of one among a number; and of the *place* where it stands in relation to the whole number; as the twentieth, or the fiftieth. The word *order* is used, generally, to signify, that many things are placed together in a fixed way, to answer some end or design: in this sense Method produces Order.

OPINION. Any proposition which we *believe*, but do not absolutely *know* to be true, is called an Opinion. The word is most commonly applied to propositions which are believed by some persons, and doubted, or disbelieved by others; and which are, there-

fore, often disputed: it is most especially applied to questions in which men feel a lively interest: we speak of 'religious opinions,' and of 'political opinions;' but not so usually of scientific opinions; because it is but a few individuals who feel a lively interest in scientific disputes.

The opinions of men, with the exception of a few individuals, are, like their manners and the fashion of their dress, received from education, and influenced by the particular society in which they move. It must be remembered that in subjects which do not admit of demonstration, there is always *some* appearance of truth to support even the least probable opinion: and if the mind is accustomed to attend only, or chiefly to this appearance of reason, on one side, while from indolence or prejudice, it never completes any process of thought in relation to the other side of the question, it may hold its opinion without insincerity, and without being chargeable with an entire want of thought in regard to the disputed point. The mind acts, but its action ceases before the comparison of notions is perfected.

That smaller number of persons, who at an adult age, change their opinions, or whose opinions can, with propriety, be called their *own*, may be arranged under four classes.

The First Class consists of those who change their opinions, simply because they cannot retain any opinion long: this may arise from several causes:—1st. From a sort of feeble activity in the intellectual powers: in such minds, there is constant *movement;* but no *exertion:* no comparisons of notions are actually completed: the mind never touches the truth of a proposition. 2d. From levity or frivolity of temper, and a childish love of novelty. 3d. From that vanity which is gratified by the show of liberality and freedom from prejudice. 4th. From melancholic timidity which creates a distrust of *all* evidence: such persons *change* their opinions merely from the fear of having been deceived in those which they last held.

The Second Class consists of those who adopt opinions which gratify some strong peculiarity in their tempers. For example:—

The strenuous advocates of particular political opinions, very rarely are such from calm conviction, or from a philosophical study of human nature, and an extensive acquaintance with history; but from some very evident asperity, or malignity, or arrogance in their tempers. He whose temper is, at once, timid and arrogant, will, probably, adopt opinions favourable to arbitrary government: he will have little sympathy for the privations, or regard to the rights of the many; while he will approve of the force, and justify the corruption by which the exclusive privileges of the few are maintained. On the other hand, he whose pride is more courageous, and more malicious, will adopt opinions which give the best colour to an acrid, turbulent, and malignant animosity towards the particular persons who may administer the Government.

Under this head may be included (though they might well form a class by themselves) those persons in whom what is commonly called the spirit of contradiction, or the love of controversy and contention, is the ruling

motive. Such persons may be driven into the profession of *any* opinion by opposition. To secure themselves from the danger of meeting with individuals who may think entirely as they do, they often adopt and profess some odd notion, or system of notions, so absurd as to be quite beyond the reach of reason and argument.

The THIRD CLASS consists of those who adopt or change their opinions in consequence of rational conviction, produced by inquiry and reflection.

This *intelligent* formation or change of opinions is not rare on literary and scientific questions; because on these subjects there is little room for motives of interest, or of party spirit; and because it is chiefly persons of a calm and intellectual character, who addict themselves to pursuits of this sort. A man who, from ostentation or perversity of temper, may choose to maintain some extravagant scientific system, is, at the present day, rarely able to make a party large enough to give permanent support to his absurdities: he is therefore presently abandoned to ridicule; and forgotten.

A purely rational change of political or religious opinions may take place after inquiry and reflection, either from peculiar calmness and ingenuousness of temper; or from the force and superiority of the understanding: in minds of a high order the *pleasure of knowledge*, or, the love of truth, furnishes a motive which is always stronger than any other.

The Fourth Class consists of those who form or change their opinions (chiefly religious opinions,) in consequence of a change in their moral dispositions.

For example;—When young persons who have been religiously educated become depraved in their moral feelings, and licentious in their conduct, the vitiation of the imagination and the social affections tends to obscure that internal evidence of the truth of Christianity, which, to a mind not depraved or perverted, is alone sufficient to command belief. And as the injunctions and the awful sanctions of the Bible are the principal restraints upon the passions, there is a strong motive for wishing to invalidate its authority: this motive may so far divert

the attention from the *direct* evidence of Revelation, and so fix it upon objections and difficulties, that, at length, a very sincere kind of infidelity may be produced, which may continue to infatuate the understanding to the last moment of life.

A happier change of opinions takes place when the mind, from a state of moral and religious indifference, or insensibility, or depravation, becomes alive to its accountability to God, and to the vast interests of the future life. A change of this sort will not fail to be accompanied by a diligent perusal of the Scriptures, with that earnest and humble prayer for the promised guidance of the Holy Spirit which is the first and principal sign of religious sincerity. In this state of mind the plain sense of Scripture, on those few points in which a right belief is indispensible to *true virtue,* will be admitted without refinements or perversions. If the same *nominal* opinions have previously been held, they will now become the objects of a moral, as well as of a merely rational assent: or if different opinions have before been entertained, they will, as it were, wither,

and fall away from the mind, or be instantaneously cast off, as having no congruity with the new state of the feelings.

See JUDGEMENT. PREJUDICE.

PASSION, is opposed to *Action*. A passive state is the state of a thing while it is operated upon by some cause: a thing is passive in which some effect is produced: the word *Passion* has been applied to the strong feelings of the mind; because in such a state, the mind is influenced by some object which is the cause of the feeling: the *passion* of fear is the feeling caused in the mind by some object which is supposed likely to injure us.

The mind even while under the most violent agitation, whether from emotions of resentment or desire, is still in a *passive*, not in an active state: it is moved by external objects, or by animal sensations; and the more *movement* there is, the less ability is there in the mind to resume its active state. It was the constant aim of the ancient ethical philosophy to render the mind less liable to passive movements by cultivating the habit of *intellectual* activity.

But, with the exception of a few individuals, whose constitutions may be peculiarly sedate, and whose tastes are at the same time wholly intellectual, this plan has always been found utterly inefficient. The aim of the Christian Religion is, neither to render the mind insensible to natural emotions, nor to quell emotion by simple reasoning; but to oppose *motive* to *motive*, by gradually withdrawing the mind from the sphere of those which are sensual and malignant, and inducing the habitual operation of those which are pure, elevated, and benevolent. These calmer motives are always compatible with the *active* state of the mind: they do not shake or disturb its perfect command of itself: the emotions which spring from them are rational, but the agitation of the sensual or malignant passions produces a sort of temporary insanity.

PERCEPTION, is distinguished from *sensation*. The mere feeling in the organs of sense, occasioned by an external object, is called *sensation*: when this feeling gives the mind the notion of some external object, which is the cause of the sensation, we are said to

perceive; or to have *perception.* If we had but one sense; the sense of smell, for instance, we should never imagine that there was any external cause which produced the sensation; but it is by comparing what we see, with what we touch, or hear, or smell, or taste, that we learn to think of the causes of our sensations: and thus have perceptions of things without us.

PHENOMENON, from φαινομενον—something which makes its appearance. The word is most properly applied to some fact in the course of nature, which has either not been before observed; or which is not yet perfectly understood.

POSITIVE. See NEGATIVE.

POWER. It has already been said (see CAUSE,) that the notion of Power is a simple Abstraction, derived from our consciousness when, by an act of the Will, we produce a change, either in the mind itself, or in the position of the body, by the action of the muscles. The mind naturally and involuntarily connects this notion of *Power* with whatever seems to produce an Effect. Hence it is common to say, that every Cause has in

it the *power* to produce its proper Effect. We speak of the *Powers* of Nature, generally; or, in particular instances, of the Power of the Sun to produce the evaporation of fluids, and the ripening of fruits;—of the elastic Power of the Atmosphere;—the expansive Power of Steam, &c.

This mode of speaking ought to be understood simply as expressing the *antecedence* of one event, and the uniform *sequence* of another event;—the first called a Cause, the second an Effect. Our inquires into the laws of Nature, carry us no further than to ascertain what events are uniformly consequent, the one to the other. We know of no *Power* but that which belongs to the *Mind*. It is an old definition of Mind and Matter, agreeable to this explanation of Power,—Mind is that which *moves;* Matter is that which *is moved.*

PREJUDICE. An opinion received or maintained without proper regard to the arguments which may prove it true, is a *Prejudice;* whether the opinion be true or false. In most cases, Prejudices are opinions which, on some account, men are pleased with,

independently of any conviction of their truth; and which, therefore, they are afraid to examine, lest they should find them to be false.

A Prejudice is an unreasonable judgement, formed or held under the influence of some other motive than the love of truth. Prejudices therefore, may be classed according to the nature of the *motives* from which they result. These motives are either pleasurable, innocent, and social; or they are malignant.

Among the Prejudices of the First Class are to be enumerated—1st. The false judgements which result from personal vanity. When our own endowments, or qualifications, or external advantages, or performances, are placed in comparison with those of others, the pleasurable sensation of self-love, either entirely prevents the process of comparison, or so disturbs and perverts it, that we often acquiesce, without suspicion, in the most egregious mistakes. 2d. Those false judgements which result from the social affections. The fondness of parents towards their children, and what is

usually called the love of Country, generally include some prejudices of this kind. There is a third species of pleasurable prejudices which are more indefinite, though they might perhaps, all be traced to some modification of self-love ; such are those by which capricious minds are fixed, for a while, upon some object of an accidental preference, with a blind and exclusive satisfaction : more tenacious tempers are often permanently infatuated in their attachment to an object which has once been connected with a pleasurable sensation. Prejudices of this kind often govern the minds, and command all the energies of unoccupied persons in the prosecution of some frivolous pursuit or study. The eager collectors of worthless rarities and relics,—and indeed most of those who are ardent in the pursuit of the *minor* branches of science or literature, are commonly so wrapped up in agreeable prejudices, that they are incapable of forming an estimate of the relative importance of the objects which engross their attention. The human mind is perhaps liable to no prejudices more inveterate and more infatuating,

than those, which, in ardent but contracted minds, confer a grave and vast importance upon the acquisition of shells, or feathers, or coins, or antique pot-sherds, or scarce editions of worthless books.

Prejudices of this third kind may be innocent, those of the second kind are amiable and beneficial: those of the first kind are always disadvantageous. It is the aim of an enlarged and cultivated mind to found right feelings upon *true* judgements.

Prejudices of the SECOND CLASS, resulting from *malignant feelings*, are always injurious, as they are always odious. Such are those produced by the Pride of rank or of intellect; by capricious antipathies against individuals;—by personal animosities, in consequence of real, or supposed injuries;—by party spirit in matters of religion, or politics; by national, or provincial, or municipal jealousies;—by corporate interests, as those of station, rank, and profession, &c.

Candour is the willingness to form a true judgement in some instance where we are conscious of a malignant motive for forming

or holding a false judgement. He who has *no need* to exercise candour, has a better chance of forming a correct opinion than even the most candid temper. False candour is a willingness to relinquish a malignant prejudice from indolence, indifference, or, perhaps, from some stronger opposing prejudice.

Beside these two principal classes there are many prejudices which flow from some mistaken maxim, or habit of thought; or an unfounded deference to established opinions: but such false judgements, when they chiefly regard the reasoning faculty, are, for the sake of distinction, better called simply errors, than prejudices.

See OPINION.

PRINCIPLE, from *Principium;* a beginning. That from which many other things arise, or proceed: the first or most important parts or properties of a thing are called its *Principles.* The Principles of a science, are those few propositions which are most evident, most simple, and most important.

PRIMARY, is opposed to *Secondary.* Those qualities, or properties, without which we

cannot even imagine a thing to exist, are called primary qualities. Extension and Solidity are called primary qualities of matter. Colour, Smell, Taste,—are called secondary qualities of matter. This distinction is a mere notion of the mind, resulting from our imperfect knowledge of things.

Probability. This word, often joined with some qualifying term, expresses the *degree* of *our ignorance* in relation to some past fact, or future event. It does not relate to the fact or event itself, as being more or less certain.

'It is *probable* that Babylon was founded on the site of the Tower of Babel.'

'It is *probable* that Plato had perused some parts of the Jewish Scriptures.'

'There is *some probability* in the supposition that the Egyptian Pyramids were built by the Israelites, during their bondage.'

'It is *highly probable* that the planets are inhabited.'

'It is *highly probable* that a spark falling upon gunpowder will cause its combustion.'

'It is *probable* that the Eastern and Western States of North America, will, at some future time, form separate Governments.'

'It is *probable* that a communication may, one day, be made between the Mediterranean Sea and the Red Sea, through the Isthmus of Suez.'

'It is *probable* that a person in health will live a year.'

All these propositions are as *certainly true*, or as *certainly false*, as that twice two are four: or, that three times two are seven. We are obliged to speak of them as *probable* on account of our ignorance: and we speak of them as more or less probable in proportion to our ignorance.

See CONTINGENT. NECESSITY.

PROPOSITION. Any judgement of the mind concerning two or more things, expressed in words, and declaring that they agree, or disagree; that they are alike, or unlike; that one belongs to the other, or that it does not belong to it; is called *a Proposition*. The thing of which we principally think in making a proposition, is called the *Subject:*

what we affirm or deny concerning it, is called the *Predicate*, or the *Attribute*: the predicate means that which is declared; the attribute, that which is rendered or given to a thing: for example:—

'The Earth is round.'

In this proposition the *Earth*, is the *subject*: *round*, is the *predicate*.

Propositions which the mind can at once comprehend, so as to perceive that they are true, are called *axioms*: as,—'two and two are four.' Propositions which are not evident at once, require to be proved by reasoning: the proposition that the Earth is round, is not evident at once; on the contrary, without reflection, we might suppose it flat. But after we have made several unquestionable inferences from known facts, we prove, certainly that it is round.

Propositions are commonly arranged under several heads,—as, for example;—

Some are Affirmative;—as, 'Temperance conduces to health.'

Some Negative; as 'Temperance does not ensure health': or they may be divided into those which are Universal; as,—'All

men must die:'—and those which are Particular; as,—'Some men reach the age of an hundred years.'

These artificial distinctions are of little utility or importance.

Every perfect sentence contains one, or more propositions.

Every verb, with its nominative case, is a proposition, or affirmation:—as,—I am; he runs. The infinitive mood is the mere *name* of *the action*, expressed abstractedly; and therefore it contains no affirmation or proposition.

Reason. All the operations of the mind when it thinks of the qualities of things separately from the things to which they belong;—or when it forms general notions, and employs general terms; or when it judges of the agreement or disagreement of different things;—or when it draws inferences;—are comprehended under the term *Reason*. Reason seems chiefly to consist in the power to keep such or such thoughts in the mind; and to change them at pleasure; instead of their flowing through the mind as in dreams; also in the power to see the

difference between one thought and another, and so to compare, separate, or join them together afresh. Though animals seem to have some little power to perform these operations, Man has so much more of it, that he, alone, is said to be endowed with *Reason*.

Reasoning. What is called a chain of reasoning, is the slow process carried on by the help of words or other signs which our narrow and feeble minds are obliged to pass through, before we can perceive the connexion between two things which are said to agree, or to disagree, in some way. Comprehensive and vigorous minds have need of less of what is called *reasoning*, than uncultivated and feeble minds. Much knowledge, with great force and activity in the mind, supercedes the necessity of trains of reasoning. When it is said that three times three are nine, every adult, by an instantaneous act of the mind, perceives the truth of the proposition ; but a child, commencing the study of arithmetic, does not perceive that three threes are as many as nine : it is, therefore, necessary to *show*

him that they are so, by making him count three parcels of three counters. It is not without some such *process of reasoning*, that his feeble and unexercised mind can comprehend the connexion affirmed in this proposition.

The nature of the case is precisely the same, when an adult is told that the figures $\frac{7}{13}$ bear the same proportion to each other as the figures $\frac{56}{104}$; or that these are two forms of expressing the same fraction: unless he be expert in calculation, he will not instantaneously perceive the truth of this proposition; and it will be necessary for him to attend to the arithmetical reasoning by which it is proved to be true. If he had more readiness and greater comprehension of mind, he would know this proposition, as he knows that twice two are four. See BELIEF, and DEMONSTRATION.

That operation of the mind by which propositions are proved to be certainly true is called Demonstrative Reasoning.

The operation of the mind is the same in reasoning upon subjects that do not admit of absolute demonstration. In order to com-

prehend the connexion between two facts which are affirmed to depend one upon the other, it is necessary to attend to all the particulars,—one by one, which lie between the two facts: as, for example;—

If it is affirmed that the cutting a canal will facilitate communication between the towns near which it passes, the connexion between the two facts is easily perceived, and no reasoning is necessary to prove the truth of the proposition.

But if it is said that the cutting of this canal will occasion the loss of many vessels on a part of the coast which is three hundred miles distant, we do not at once see the connection between the two facts here affirmed to depend, one upon the other: the connection must be shown in some such way as the following.

1. Hitherto the copper works at A. have been supplied with coal from a distant maritime county.

2. This new canal will afford a safer and cheaper conveyance for coal from the pits at D.

3. A hundred sail of vessels will therefore cease to be employed.

4. But these vessels have given employment to a great number of pilots, in a dangerous channel, through which they had to pass.

5. These pilots, losing the principal part of their employment, will gradually abandon the station; and seek their livelihood elsewhere: the few who remain will be the aged or unskilful.

6. Hence will follow what was at first affirmed,—that if the canal be cut, vessels which pass through this channel will often be exposed to shipwreck, from the want of a sufficient number of able and skilful pilots.

After all these circumstances have been mentioned, in regular succession, and the connection between them perceived, we are convinced that the proposition first stated is, at least, probably true.

Every train of Reasoning is an operation similar to what is exhibited in this instance.

See INFERENCE.

Reasoning is false when some of the particular facts are not truly represented, or, are not really connected in the way that is affirmed;—Or when some facts which are really connected with what is affirmed have been omitted.

Relation. Any sort of connexion which is perceived or imagined, between two or more things; or any comparison which is made by the mind, is called a *Relation*. When we look at these two lines,

we do not merely think of them separately,—as, this straight line, and that straight line; but they are immediately connected together in the mind by a comparison which takes place as soon as they meet the eye. We first think of them as being *alike;* because they are both straight; and we call the notion that is formed—the relation of sameness. We then think of them as the same in length;—this is the relation of equality. We think of them, again, as equally distant from each other, from end to end; and then we say they are parallel lines: this word *parallel* represents nothing in the lines themselves; but only the notion formed by measuring the

distance between them. All these notions spring up in the mind from the comparison of the two objects: they belong entirely to the *mind*, and do not exist in the things themselves.

A great number of our notions are formed by perceiving the ***Relation*** between two or more things or ideas. The notion of Truth is formed by perceiving the relation between an affirmation, and the thing spoken of; or between a notion and the thing to which it belongs: Truth, then, is a relation of sameness or agreement. Sin is a relation of disagreement, between an action and a rule, or law. Notions so formed are complex: they require, therefore, to be analysed, before we can think or reason correctly concerning them. See Chap. X.

SENSATION. The mere effect that is produced in the mind when some external object acts upon the nerves of the eye, the ear, the nose, the palate, or the skin or muscles, is called *Sensation*. (See PERCEPTION.) All our knowledge of external things arises from the comparisons which we make between sensations of different kinds: we

compare the sensations of sight, with those of touch; and so become acquainted with the distances and shapes of bodies.

Signs. Any sound, mark, figure, or image, which has been connected with some idea, and is employed to recall it to the mind, is called a *Sign*.

There are two kinds of signs; Those which are *Arbitrary*, and those which are *Natural* and *Representative*.

Arbitrary signs, are certain sounds or marks which become joined to particular ideas in the minds of men, merely by use, and common consent: words spoken and written are arbitrary signs: they are called *arbitrary*, because there is no reason why such or such sounds or marks should signify such or such ideas, except the will and agreement of those who use them; hence it has happened that men in different ages and countries have fixed upon very different sounds and marks to signify the same thing. Five men may look at the same object: one, when he sees it, will utter the sound οικια; another, *domus*; another, *casa*; another, *maison*; another, *house*.

Sounds are the signs of *ideas;* and marks, or letters, are the signs of *sounds.* There are some few words in all languages which are not entirely arbitrary; but are in some degree natural or representative; such, for instance, as the words which signify the voices of animals; and also some interjections, expressive of joy and pain. These words being similar in all languages, may be considered as the *natural* signs of such emotions. All other words are arbitrary signs.

Natural and Representative signs are gestures of the body, or expressions of the countenance, or such figures or images as have some kind of *likeness* to, or natural connexion with, the things they signify.

Gestures of the body are employed by men who do not understand each other's language. A great part of the thoughts that are excited in the mind in familiar conversation is communicated by the various expressions of the countenance; and, such expressions being nearly the same in all human beings, they may be considered as natural signs of ideas

Symbols are rude pictures, or images of objects, from which it is intended that inferences should be drawn, in order to discover the meaning of them. Pictures are addressed to the *eye;* and are intended to be understood at a first glance; but symbols are addressed to the *understanding.* A Wheat sheaf may be employed as a symbol of *plenty;* a sword, of *war;* scales, of *justice;* a plough, of *industry;* an anchor, of *security;* an eye, of *knowledge;* a heart, of *affection, &c.* All that is necessary in symbols, is, that each figure should so nearly resemble the things represented, that it may be known what object is meant; and also that they should be so put together, that it may be possible to discover what is intended to be understood by the whole. A Symbol, more carefully represented, and intended to communicate some moral truth, is called an Emblem.

The ancient Egyptians employed symbols to represent the principles of their religion; or, perhaps, to record the histories of events, or persons: these were called by the Greeks, Hieroglyphicks, from ιερος—sacred, and

γλυφω—to carve; because they were symbols, relating to religion, carved upon obelisks.

Sophism, from σοφισμα—a false argument. The word is not usually applied to *mere errors* in reasoning; but to those errors in reasoning of which the persons who maintain them are, in some degree, conscious; and which they endeavour to conceal from examination by subtilty, and by some ambiguity, or other unfairness in the use of words.

In books of Logic are to be found artificial classifications of the various kinds of Sophisms, with rules for detecting the fallacies on which they rest. But it requires much attention, and some acuteness, as well as frequent exercise in disputation, to be able to make a ready or immediate use of these abstract rules and distinctions. There are, however, two or three plain considerations and directions which may tend to secure the mind from the danger of having important principles shaken or overthrown by sophistical reasonings.

I. There are some characteristics of sophistical reasoning, by observing which it

may often be *suspected*, and its influence destroyed, when we are not able to detect and expose the fallacy.

1st. Sophistical reasoning is commonly subtile in its style; and the force of the argument is made to depend upon niceties and refinements in the use of words. A sophistical reasoner will rarely consent to state his argument in any other than the precise terms which he has artfully selected. On the contrary, Truth, as it is independent of words, may, generally, be stated, with nearly equal advantage, in several forms of expression. He who defends what he understands, and what he honestly believes, is generally less solicitous about particular phrases, than he who is conscious of reasoning sophistically.

2d. When sophistical reasoning is not crafty and circuitous, it is often abrupt and offensive: there is an attempt to *force* assent by some seeming *demonstration*, which will leave no room for reply; and this, even in subjects plainly beyond the reach of demonstration. Now, it should constantly be borne in mind, when questions are discussed which have long been debated in the world,

that, if these *pretended demonstrations* were as sound and good as, to those who hear them for the first time, they may seem to be, they would, long ago, have settled the controversy in question. Demonstrative reasoning either supersedes all controversy; or it is utterly useless:—it is good for every thing; or it is good for nothing. Truth *leads* the mind: Sophistry *drives* it.

3d. Sophistical reasoning is very commonly advanced in the smart, flippant style of a repartee, or an epigram. Indeed, it will be generally found that those who are *habitually* sophistical reasoners, are, in their natural tempers, either crafty, disingenuous, and cold; or self-complacent, flashy, and ironical. Dogmatism must not be reckoned among the symptoms of sophistry; because it very often results from the full and serious conviction of truth in a strong understanding, joined to an arrogant or irritable temper.

II. We should never estimate the soundness of principles by *our own* ability to defend them; or consider an objection as unanswerable, to which *we* can find no reply. It is an absurd self-confidence, es-

pecially in a young person, to abandon his principles as soon as he may find himself worsted in argument. There is no defence against flippant sophistry so effectual as an *intelligent modesty.* Indeed, genuine firmness of mind consists greatly in an habitual recollection of our own moderate powers and acquirements. Let us suppose the case of a person who has a common knowledge of astronomy: he has learned that the great law of planetary motion is, that the squares of the periodical times of the Planets, are as the cubes of their distances from the centres of their orbits. He understands this doctrine, and the manner in which it is proved in a general way, and he knows that is the received opinion among men of science. Now he happens to meet with a sophist, whose mathematical acquirements, and whose readiness in calculation are considerably greater than his own. This sophist undertakes to prove that the established doctrine is unfounded; and he pretends, by some short and unanswerable process, to detect a capital error in the calculations by which it is usually proved.

What then does this person do?—does he say—'Yes, I see we have all been mistaken; your reasoning is unanswerable; I therefore candidly confess my former error?'—No one who has a common measure of good sense would act thus in the case supposed. If he found a difficulty in reconciling the sophist's apparent demonstrations with established principles, he would put that difficulty wholly to the account of his own ignorance and incompetency; and would refer it to those who may be able to explain to him the fallacy by which he has been embarrassed. The same conduct, influenced by the same modesty, would, in most cases, be the best, as it is in fact the most reasonable manner of treating crafty or sarcastic sophistry.

III. Sophistical reasoning is very commonly founded upon an ambiguous use of those words which signify complex abstract notions; such, for example, as some of those mentioned page 56. The highly important habit, therefore, of regarding things and notions apart from words, and of analysing all complex abstract notions, affords the

best *intellectual* security against the impression of fallacious reasoning. When a sophistical argument is proposed to a person accustomed to think abstractedly and analytically, he will, in the first place, examine each principal term employed, and, in so doing, he will rarely fail to discover that one of them is used in two senses, or in a sense altogether improper, or inapplicable to the subject.

Sophisms may consist in proving some thing which is beside the question; or in artfully changing the real point in dispute. Thus, if it be affirmed that the tendency of Christianity is much more favourable to public and private virtue, than that of any other religious system, or than Atheism; an opponent may change the point in dispute, by proving that many professors of Christianity have been worthless and licentious men; or by proving that some Idolaters and some Atheists have been blameless in their external conduct. The real points to be determined are these:—whether Nations, taken at large, in which Christianity has prevailed, or in which the Bible has been actually read

and regarded by the mass of the people, have not greatly surpassed in morality those Nations to whom it has been wholly unknown, or by whom it has been little regarded: And then,—whether, if any number of the most apparently sincere Christians is compared with an equal number of the best heathens or deists, they will not be found to possess a sort of virtue much more complete, more pure, and more beneficent.

Many Sophisms consist in taking for granted the very point to be proved. Thus, if it be argued that a man who is just and temperate need not concern himself with matters of faith, or forms of religion, because a just and temperate man is *virtuous*, and therefore must always be the object of the Divine favour. The thing to be proved,—namely, whether justice and temperance, without piety, constitute that virtue which will be approved by God, is taken for granted, by calling the merely just and temperate man, *virtuous*.

Sophisms are sometimes framed by assigning a wrong cause to some effect. There is a sophism of this kind when it is

said that Christianity has caused many bloody wars, cruel persecutions, and barbarous massacres. While in fact, it has been the ferocious passions of men, made more ferocious by the rebuke they have received from the pure and peaceful spirit of Christianity, which have been the real causes of these wars and persecutions.

Sophisms often arise from drawing inferences on insufficient grounds: (See INDUCTION. INFERENCE); or when some effect is supposed to be constant, which is only accidental: or when some law of nature, or rule is stated to be *universally* true, which, in fact, is liable to many exceptions. Persons who guide their conduct by *maxims* are very liable to deceive themselves by sophisms of this sort. There is, perhaps, some *general* truth contained in their favourite sayings: but when such maxims are made the rules of conduct, they require a careful observation of the particular circumstances to which they are applied. A large proportion of the pointed proverbs which tickle the ears of the vulgar, are mere sophisms of this class. It may be observed

that wide and various information is apt to render cultivated minds over cautious in calculating upon the exceptions to general laws; while uncultivated minds, almost always, make a rude and blind use of general rules, without regard to exceptions.

Whatever may be the nature of a sophism it is always *disguised* by some indistinctness, ambiguity, or impropriety in one or more of the words by which it is expressed. A general rule therefore for detecting the fallacy of sophistical reasoning is, to oblige those who advance it to define every principal word employed, to analyse every complex abstract notion, and to use words constantly in the same sense.

See JUDGEMENT. REASONING.

SPACE. We obtain the notion of Extension by comparing what is seen, with what is felt: after we have gained this notion, we are able, *in thought*, to take from it what we learn by touch,—or the notion of some thing which resists our movements. Space, then, is the word we employ to signify the notion of Extension, after we have taken from it the notion of Solidity. The way in which

this notion is acquired may thus be described, but as it is a simple abstract notion, it cannot be analysed.

SPECIES, and GENUS. See Chap. V.

SUBJECT; that concerning which something is affirmed; or that to which some quality belongs. See PROPOSITION. ESSENCE. ADJUNCT.

SUBSTANCE. It is natural to us to imagine that there is some thing to which all the qualities of things belong; therefore we speak of solidity, and extension, and shape, and colour, as the qualities of a *something*, —we know not what, which we call *matter*; and then we say that matter is an extended and solid *Substance*. The mind is called a thinking *Substance*. Whatever there *may be* in things, we *know* nothing further than what we perceive of their various sensible qualities. The word *Substance*, if used in distinction from all the qualities of things, only expresses our supposition of somewhat of which we know nothing. See AFFECTION.

SUCCESSION. The consciousness of one thought following another perpetually, gives us the notion of duration. The estimate

which we form of the length of any portion of time depends, partly, upon the number of thoughts which has passed through the mind; and partly, upon the liveliness with which we remember them: a long day is one in which a multitude of agreeable thoughts has passed through the mind. A year seems longer in youth than in more advanced life; because, in youth, the attention is less fixed upon single objects; and the course of the thoughts is more rapid, and more often diverted into new directions. See DURATION.

SUGGESTION. Our minds are so formed, that thoughts which have once been brought together, are afterwards apt to return to the mind together. The course of the thoughts, when they are left to flow on without any direction from the Will, seems to be governed by the connexions which have been accidentally formed among them. If we attempt to trace back the wanderings of our thoughts, we shall generally be able to discover some connexion between ideas, which has led the mind, in the course of a few minutes, to be occupied with the most

widely different things. Often it is merely some likeness in the sound of words which ties thoughts together: often it is some similarity in the feeling of pleasure, or displeasure, towards two different objects: often, the sight of an object will bring into the mind the thoughts which happened to engage us when we last saw it.

Even when we endeavour to direct our thoughts by an act of the Will, we still, more or less, follow the natural or the accidental connexions which have been formed among them; and the difference observable in men's way of thinking, when they direct their minds to the same objects, depends, greatly, upon what it is which usually suggests their thoughts. One man's thoughts are suggested, chiefly, by *words*, and forms of expression, which have been stored in the memory: such a person will think rapidly, and speak fluently, and with much propriety; but he will not often bring forward what is new. Another man's thoughts are suggested, chiefly, by the feelings he is most subject to,—such as benevolence, or anger, or contempt, or the love of freedom,

or the sense of religion. Such a man will bring forward thoughts that are so proper to the occasion on which he writes, or speaks, that he will easily lead other men into the same feelings; but he will not be able to think well, except when his feelings are excited.

Another man's thoughts are chiefly suggested by the real resemblances or analogies or differences of things; without regard to *words*, or other men's opinions. Such a man will think philosophically. To have the thoughts thus suggested by the *real nature of things*, and not by *words;* or by the moral feelings; or by the pleasures of the fancy, constitutes what is called the philosophical spirit. It is often not difficult to discover from a man's conversation, what habit or feeling it is which usually suggests his thoughts; and when we discover this, we may see the reason of much that he says; and often anticipate what opinion he will express on a particular subject.

The actions of animals proceed immediately from the suggestions which take place in their minds; and these suggestions

are caused by their perceptions or sensations. The actions of animals, therefore, in given circumstances, may generally be anticipated with certainty. The words and actions of children chiefly flow, also, from the suggestions of the moment: they may, therefore, often be anticipated, or, at least their words and actions may afterwards be accounted for, by our knowledge of the suggestions from which they flow. In the idle, continued, and multifarious chattering of a child, it is often possible to perceive chains of suggestions very similar to those which take place in dreaming. In proportion as the mind by habit becomes *active*, the natural and accidental chains of suggestion are interrupted, and words and actions are directed by Reason. See Chap. III.

Syllogism, from συλλογισμος—a collection of reasons. An inference from what we already know or believe to be true, when it is put into three propositions is called a *Syllogism:* for example :—

1. No one can be happy who lives in continual fear :

2. A miser lives in continual fear ;

3. Therefore, a miser cannot be happy.

This is only a more formal way of declaring what must be granted as soon as it is stated,—namely,—That a miser cannot be happy; because he lives in continual fear.

In a Syllogism, the first two propositions are called the *Premises;* because they are the things *premised* or put before; they are also called the *Antecedents:* the first of them is called the *Major*, and the second the *Minor*. The third proposition, which contains the thing to be proved is called the *Conclusion.*

Reasoning by Syllogism was once supposed to be the only method of discovering truth. It is, in fact, only a method of stating formally and distinctly what we already know or believe.

Synthesis, from συνθεσις—a putting together. Synthesis is opposed to Analysis: when the parts or elements of any thing have been discovered by analysis, we have then learnt how to compound them again, so as to produce the same complex body: this compounding is called *Synthesis.*

Testimony, is the declaration of one who professes to *know* the truth of that which he affirms. By far the greater part of all which we believe, and of all which, in a common way of speaking, we are said to *know*, depends upon Testimony. Men rely confidently upon Testimony in conducting their most important concerns: and the human mind is so formed that it is more natural to us to *trust* to Testimony, than to *doubt* it. We should believe it entirely, and constantly, if we did not find that it is sometimes fallacious.

There are two ways in which Testimony may be fallacious:—1st. He who declares a thing may be mistaken: or,—2nd. He may design to deceive those to whom he speaks. In judging of the truth of Testimony, we must, therefore, in the first place, consider, whether it is possible, or likely, that the Witness may have been himself deceived in the thing which he affirms: for example;—If a Witness declares that he has been robbed and beaten on the road; we know that this is a matter in which he cannot be mistaken: but if he says that such, or such

a man, was the robber, it is possible that in *this*, he may be mistaken ; and if the robbery happened after sun-set, it is probable that he may be mistaken. We here estimate the value of the Testimony by considering the nature of the case.

When it has been thus determined how far we may be sure that the Witness is not himself mistaken ; we must next endeavour to discover whether he designs to deceive us. Now we may judge of the *veracity* of a Witness, in four ways :—

1st. By what may be known of his general character. This is, indeed, the *chief* ground of our confidence in Testimony. We believe a friend, of whose integrity we have no doubt, even when he declares what may seem highly improbable : while to a known liar, we hardly give credit in the most common matters. The veracity of men who have lived in distant ages may also be judged of, where history has recorded the general course of their lives ; or where they have left writings, by which their principles and tempers may be known ; because human nature has been the same in all ages.

2nd. We judge of the veracity of a Witness, by considering whether he is likely to be influenced by any motive of interest or passion, to give false Testimony, in this particular case; or whether, on the contrary, it would not have been to his advantage, to have given a very different Testimony. When a Witness declares that which brings upon himself losses, or dangers, or death, his Testimony has the highest kind of confirmation.

3rd. We may, in general, very safely judge of the veracity of a Witness by comparing one part of his narrative with another.

The several parts of any story which has been invented to deceive, will, almost certainly, be found not to accord with each other; especially in lesser particulars: what a false Witness says at one time, will not agree with what he says at another: or what he says from premeditation, will contradict what he affirms when he answers an unexpected question.

4th. The truth may, almost always, be discovered, where there is an opportunity of comparing the Testimony of different

witnesses of the same fact. A number of false witnesses will be sure, in some circumstances, to contradict each other; and besides;—as nothing but some strong motive can induce many persons to agree together to support the same untruth, it will be evident where any such common interest exists. But when many witnesses of different ranks in life, different ages, and different private interests, agree in all the principal points of a story, we feel confident in the truth of the Testimony.

It is by such methods that the truth of Testimony is determined in Courts of law: and when a fact proved by Testimony, is confirmed by these, or similar rules, no reasonable person can honestly pretend to doubt it: and, indeed, many criminals are adjudged to death where the evidence is very far from being satisfactory in all the respects which have been mentioned.

Now, if we apply these four rules to the Testimony which supports the histories contained in the New Testament, we find that it is confirmed by each of them.

All the principal and most remarkable facts in these histories are of such a kind, that it is impossible the witnesses should have been themselves deceived in what they relate: for example, the instantaneous healing of the sick; the restoration of the blind; the making the maimed whole; the raising of the dead; the feeding thousands from a few loaves; and all these things done in the presence of large assemblies, many of whom viewed what was done with envy, and the eager desire to find occasion of cavil. No *one* witness in the possession of his faculties, could be deceived in such matters; much less, hundreds or thousands of witnesses.

Then, if we come to judge of the *veracity* of these witnesses; there is abundant proof,—

In the first place—*that they were honest men:* not only are the writings which record these facts remarkably artless in their style; but their tendency is so plainly favourable to virtue, and so strongly opposed to all vice, that it is impossible to imagine that the writers were themselves wicked men, and impostors: such a supposition is far more

incredible than that the dead should come from their graves; because *this*, although it is a fact *different* from what we have ourselves ever seen; yet, it is what we know God can do when he pleases; but the *other* is *contrary* to what we know of human nature. Nothing can be imagined more strange or incredible, than that *the very first book* that was ever published in the world, containing a perfect system of morality,—and the book which has, in fact, introduced more virtue among men, than any other, should have been written by impostors.

In the second place,—it appears, that *their Testimony constantly brought persecution upon these Witnesses.* We know from the Roman Historians, as well as from the Writers of the New Testament, that many thousand persons,—men, women, and children, suffered every misery, and the most cruel deaths, solely because they persisted in their Testimony. Now, what they testified, was not their belief in some *opinion*, in which they might have been mistaken; but they testified that they had seen the eyes of the blind opened, the sick healed, and the dead raised. Those, there-

fore, who first witnessed to the truth of Christianity, knowingly brought the worst bodily evils upon themselves by so doing. Even if it were possible to suppose that a *few* men would act in this way, it is certain that multitudes of all nations, many of whom were feeble and timid women and children, could never be induced to undergo torture and death for the sake of affirming what they knew to be false.

In the third place, it appears, that *the Testimony of the first Christians was most sedulously examined.* This was incessantly done by the Jewish and Roman Magistrates, who earnestly desired to prove that Christianity was a mere delusion; and if there had indeed been any fraud, it would, most certainly, have been soon detected and brought into disgrace, by the frequent instances in which the Christians would have contradicted their own testimony, given at different times, or that of their brethren. But, in fact, the enemies of the Christians found that it was *useless* to attempt to deny the reality of the miracles wrought by them: all they could do was, either to force them by torture to renounce their faith, or to

put them to death. What has been observed concerning the *third rule*, above mentioned, applies also to the *fourth*. It may be added that the truth of the Testimony of the first Christians is confirmed by the many thousands of idolaters,—the learned as well as the ignorant, in every part of the Roman Empire, who are known to have become Christians in the first century, while miracles continued to be wrought in all places, daily. The Testimony of the first Christians is also confirmed by what is recorded concerning their numbers, their sufferings, and their constancy, by the heathen historians; especially by Tacitus, Suetonius and Pliny.

The sum, of what has been said, therefore, is this :—

I. That the Christian Religion, like all the most important concerns of life, requires men to rely upon TESTIMONY.

II. That the Testimony which supports the Christian Religion is so satisfactorily confirmed, that it cannot be rejected, unless we admit many suppositions which are contrary to every thing that we know of human nature: whereas, that God should work miracles to establish a holy religion, is not

contrary to what we might expect; but perfectly agreeable to our notions of the Divine power, and goodness.

This Testimony of the Apostles and first Christians, then, is worthy to be received;—

1st. Because, from the nature and tendency of their writings, the history of their lives, and the confession of their enemies, it is certain that they were honest and pious men.

2nd. Because their Testimony brought no worldly advantage to themselves, but, on the contrary, miseries and death.

3rd. Because the Jewish and Roman Magistrates were unable to detect any contradiction, fraud, or delusion, among the thousands of witnesses whom they examined, which they would certainly have done, if real miracles had not been wrought. See BELIEF.

THEORY, is distinguished from *Practice:* it is *thinking*, not *doing*. Theory directs Practice.

The word *Theory* is often used nearly in the same sense as the word *Hypothesis:* they may be distinguished thus;—an Hypothesis is a guess or supposition, made concerning the cause of some particular fact, with the view of trying experiments, or of making observations to discover the truth.

A Theory is a complete system of suppositions, put together for the purpose of explaining *all* the facts that belong to some one Science: For example:—

Astronomers have suggested many ***Hypotheses,*** in order to account for the luminous stream which follows Comets. They have also formed many ***Theories*** of the heavens; or, in other words,—complete explanations of all the appearances of the heavenly bodies, and their movements. When a Theory has been generally received by men of science, it is called a System;—as the Ptolomaic System; the Copernican System; the Newtonian System.

TIME, is Duration measured into equal parts. This measurement is made, either by observation of the motions of the heavenly bodies, or by the movement of machines. We learn to think of Duration chiefly, as it is *measured;* therefore the word *Time* is more often used than the word ***Duration.*** See DURATION. SUCCESSION.

TRUTH, is the agreement, either of *words* or other signs with the *thoughts* which they are employed to represent; or it is the agreement of *notions* with the *things* to which

they belong. The word, *Truth*, therefore, expresses nothing more than a relation of agreement perceived by the mind.

The truth of *Words* or propositions depends upon the use of words, or forms of expression in the sense which they will convey to the mind of him with whom we speak.

With respect to the truth of *Notions*, an important distinction must be made: some notions may be perfectly true: others can only be imperfectly true: for example;—the notion which we may have of a triangle, and all its properties, may perfectly agree with that mathematical figure. But the notions which we have of the works and operations of nature, or of our own minds, or of other intelligent beings, and especially of the Divine Being, can, at best, be only *imperfectly true;* because we know scarcely more than some few unconnected facts concerning these things. The notion which a child has of the Moon, who supposes that it is fastened in the sky, like a lamp upon a wall, and that it is the size of a plate, is altogether false. An astronomer's notion of the Moon, is *true*,—but it is imperfectly true: he knows its shape, its size, its distance from the

Earth, and the laws of its motions; but this is not a thousandth part of what he might know if he could be carried thither, and remain there some years. Now the first business of sound instruction is to free the mind from those many *false notions* which, like weeds, spring up of themselves; and then to impart true notions in their stead. The second part of instruction, is to make the mind fully aware of the unavoidable imperfection of the greater part of all our notions. A presumptuous confidence in the truth and sufficiency of our notions, is the greatest hinderance to the acquirement of real knowledge.

It is not enough to be free from positive errors: we ought to know distinctly *where we are ignorant;* or where *knowledge ends.* This is indispensible, in order that we may be at once, humble, and disposed to receive further information. The most important part of wisdom, in regard to the state of the understanding, consists in this *knowledge of our ignorance.* It has been from the want of it, that learned men have so often invented the most absurd theories to account for the appearances of nature, rather than modestly

confess their ignorance. And it is also from the want of this sort of wisdom, in matters of Religion, that men, who fancy themselves wise, refuse to learn what God has been pleased to reveal concerning his own nature, or his conduct in governing the world :— pretending to know, without the light of Revelation, what God is, and how he ought to act. They thus prove that they *do not know where they are ignorant*:—'professing themselves to be wise, they become fools.' However great may be the powers of their minds, or their acquirements, they are, in this respect, like uneducated persons, whose presumption, in matters of science, is worse than their mere ignorance, and who generally maintain, with the greatest obstinacy, their most absurd errors. The proper state of the mind, therefore, in regard to the truth of its notions consists,—1st. in not holding false notions, when true notions are attainable ; and 2nd. in knowing distinctly which of our notions are perfectly true, and which are, from the nature of the things to which they relate, only imperfectly true.

END OF PART II.

A SUMMARY,

EXHIBITING THE CONNEXION AND RELATION OF THE TERMS EXPLAINED IN THE PRECEDING VOCABULARY.

One of the Primary Notions of the Mind, resulting from the property which chiefly distinguishes Mind from Matter is that of POWER.

The notion of Power suggests the correspondent notions of CAUSE, and EFFECT: and those of LIBERTY, or CONTINGENCY; opposed to NECESSITY. The words ACTIVE, and PASSIVE, express the state of things to which the notions of Cause and Effect are attributed.

A change produced in the Mind by Material causes, through the organs of sense, is called SENSATION.

Sensations immediately referred by the Mind to external causes are called PERCEPTIONS.

The object of a Perception, recurring to the Mind without the actual presence of the material cause by which it was first produced, is called an IDEA.

The Mind by attributing its Sensations to external causes, and by regarding its Percep-

tions as proceeding from a source distinct from the changes which take place within itself, learns to distinguish between MATTER, and MIND.

Matter occasions in the Mind the abstract notions expressed by the words EXTENSION, DIVISIBILITY, FIGURE, MOTION, SOLIDITY, (or *Resistance*, in the different degrees of Hardness, Softness, Fluidity, &c.)

These are called the PRIMARY qualities of Matter; distinguished from its SECONDARY qualities, such as Sound, Colour, Taste, Smell, Heat; &c.

From considering several different qualities as united in one body, the Mind comes to make the imaginary distinction between SUBSTANCE, and its MODES, or AFFECTIONS: or, between the SUBJECT, and its ADJUNCTS, ATTRIBUTES, or ACCIDENTS.

And, from the belief that certain qualities are constantly and indissolubly joined together, results the notion of ESSENCE, or NATURE.

The act of the Mind in recalling Ideas is named CONCEPTION.

Ideas are recalled and variously composed by an exercise of IMAGINATION.

The Imagination, when excited by emotions of pleasure produces Poetical INVENTION.

The natural or accidental connexions by which Ideas are linked together in the Mind are termed the ASSOCIATION of Ideas: and these Associations, causing a connected and continued flow of Ideas through the Mind, regulate, or indirectly influence SUGGESTIONS.

Ideas occurring along with the notion of a past state of the Mind, are said to be retained by the faculty of MEMORY. From Memory result the notions of SUCCESSION, and DURATION, or TIME.

The recollection furnished by Memory of a continued succession of changes in the Mind suggests the reflected notion of *self*; called CONSCIOUSNESS: the simple abstract notion of BEING or EXISTENCE: and the persuasion of PERSONAL IDENTITY.

The multitude of Ideas which have been deposited in the Mind tend, without any conscious effort to fall into sorts or parcels, according to the resemblances which exist among them: Thus are formed GENERAL Notions. General Notions are marked and fixed by the use of arbitrary SIGNS which are employed as GENERAL, or COMMON TERMS.

From this involuntary formation of General

Notions, and from the use of General Terms, the Mind learns to relieve itself from perplexity and confusion among the multiplicity of its Ideas by Classification; founded upon the observation of resemblances and differences: hence results the sorting of individuals into Genera and Species.

From the Distinctions upon which such classifications are formed result Definitions.

These artificial operations are signified by the word Method: which by Disposition, or Division, and Distribution, produces Order.

Most Perceptions are multifarious, or complex; presenting distinct qualities, variously combined, in different objects. Hence the Mind is accustomed to regard qualities, either as attached to some substance, when they are spoken of as Concrete; or separately and singly, by an effort of Abstraction.

Efforts of Abstraction continued in relation to a complex object as long as any differences are perceived, produce an Analysis. This Analysis may be followed by recomposition, or Synthesis.

From the faculty of Abstraction proceeds Mechanical Invention; and from the faculty of

Abstraction originate most of those differences between Man and inferior Animals which distinguish what is called REASON from Instinct.

Ideas or Notions combined according to the connexions or relations which actually exist among the objects of them, constitute what is called Knowledge. Such combinations, expressed in words, and formed into Propositions, when compared with the things to which they relate, suggest the relative notion of TRUTH.

Knowledge, or the perception of the actual connexions and relations of things, is accompanied with a pleasurable emotion. When an occasion is presented to the Mind of acquiring Knowledge, this pleasurable emotion produces the state of Mind called ATTENTION.

The act of the mind in receiving Knowledge at the instant when attention begins is called INTUITION.

When a longer effort of attention is required, in order deliberately to compare objects or notions, so as to perceive the relation or connexion between them, the mind is said to exercise JUDGEMENT.

From such comparisons result abstract notions of RELATION, — as the Relations of

Sameness, or Difference; of Agreement, or Disagreement; &c. &c.

A comparison, when perfected, and expressed in words, is called a PROPOSITION. Propositions are distinguished as Affirmative, or Negative; Universal, or Particular; &c.

A Proposition expressing some relation or connexion perceived by Intuition is called an AXIOM.

A Proposition perceived to result from, or to depend upon some known fact, or some Proposition already proved, is called an INFERENCE.

The connexion or relation between two facts exhibited by a series of Inferences, each depending upon the one which precedes it, is called REASONING.

When the connexion or relation between facts may be known infallibly, the process of Reasoning is called a DEMONSTRATION.

Where the connexion or relation affirmed to exist between two facts can not be fully and infallibly perceived, the Proposition expressing such a connexion is called an OPINION: and the intermediate Propositions by means of which the connexion of the two facts is endeavoured to be proved, are called ARGUMENTS; or Reasons.

Opinions are susceptible of different degrees

of PROBABILITY; according to the nature and the amount of the EVIDENCE on which they rest. The state of the mind in admitting an opinion differs according to the estimate made of its probability; and is either BELIEF, or DOUBT.

When, (owing to the influence of some improper motive) Belief is disproportioned to the evidence which has been adduced, such an opinion is called a PREJUDICE.

A Proposition which affirms an apparent, but not a real connexion is a SOPHISM.

Uncertain Inferences, deduced from a mere resemblance, where the real connexion of facts is not known, are said to rest upon ANALOGY.

The preceding terms belong chiefly to the abstract branches of knowledge. When the qualities and changes of material Substances are the objects of inquiry, a different set of terms is employed.

The first objects upon which attention is fixed, with the view of acquiring knowledge, are called FACTS. Facts are known by Observation, or Testimony.

Facts from which Inferences are drawn, are called DATA: or, a Fact noticed with a view to philosophical inquiry, is called a PHENOMENON.

The collecting of many similar or connected Facts, from which some general Inference is to be drawn, is called INDUCTION.

The design of such inquiries is to discover, among a multitude of Facts, which are uniformly consequent, the one upon the other, as CAUSE and EFFECT.

In order to make these connexions of Cause and Effect apparent, and to distinguish them from inconstant or accidental connexions, a supposition or HYPOTHESIS must be made, upon which is founded a trial or EXPERIMENT.

A collection of Hypothesis, relating to the same subject is called a THEORY.

A collection of Facts, sorted into pairs or series of Causes and Effects, after Induction and Experiment, constitutes a SCIENCE.

This knowledge of Causes and Effects, when applied to some practical purpose, is called an ART.

When the knowledge of Causes and Effects is employed to give a new direction to the operations of Nature, the results are said to be ARTIFICIAL.

THE END.

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